Development Fee Study

Prepared for:

City of Flagstaff, Arizona

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Prepared by:

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The City of Flagstaff has contracted with TischlerBise to calculate development fees for the following infrastructure categories:

- Libraries;
- Parks and Recreation;
- Open Space and Trails;
- Police;
- Fire;
- General Government;
- Public Works;
- Transportation.

DEVELOPMENT FEE REQUIREMENTS

Development fees are one-time payments used to construct system improvements needed to accommodate new development. A development fee represents new growth's fair share of capital facility needs. By law, development fees can only be used for *capital* improvements, not operating or maintenance costs. Development fees are subject to rigorous legal standards, which require fulfillment of three key elements: demand, benefit and proportionality. First, to justify a fee for public facilities, it needs to be demonstrated that new development will create a **demand** for capital improvements. Second, new development must derive a **benefit** from the payment of the fees (i.e., in the form of public facilities constructed within a reasonable timeframe). Third, the fee paid by a particular type of development should not exceed its **proportional** share of the capital cost for system improvements.

The development fee methodologies established in this report show that the capital facilities for which the fee are prepared are a consequence of new development, the fees are proportionate and reasonably related to the capital facility service demands of new development and that development fees will substantially benefit new development.

Another general requirement that is common to development fee methodologies is the evaluation of *credits*. There are several types of credits that have been considered in the development fee methodology. First, a **principal payment credit** has been considered to avoid potential double

payment for capital facilities that have been financed with General Obligation (G.O.) debt. Double payment occurs when a facility is paid for with both development fee revenues and future property tax payments used to retire the debt. These types of credits are included in the development fee calculations and result in a reduction in the fee amounts.

The second type of credit is a **site-specific credit** for system improvements that have been included in the development fee calculations. Project improvements normally required as part of the development approval process are not eligible for credits against development fees. Specific policies and procedures related to site-specific credits for system improvements are addressed in the ordinance that establishes the City's fees. However, the general concept is that developers may be eligible for site-specific credits or reimbursements only if they provide system improvements that have been included in the development fee calculation schedule.

METHODOLOGIES

As part of this study, TischlerBise evaluated possible methodologies and documented appropriate demand indicators by type of development, for each type of development fee. Specific capital costs have been identified using local data and current dollars. The formula used to calculate each development fee is diagrammed in a flow chart at the beginning of each section. Also, each fee category includes a summary table indicating the specific factors used to derive the development fee. These factors are also referred to as level-of-service (LOS) standards.

There are three basic methods used to calculate the various components of Flagstaff's development fees. A **plan-based methodology** is best suited for public facilities that have adopted plans or commonly accepted service delivery standards to guide capital improvements. Under the plan-based methodology, there are two approaches considered. The *average approach* is used for projects that are the result of *both new and existing development*. The planned costs are allocated to both new and existing development which ensures that new growth only pays its share of the costs. The *marginal approach* is used for projects that are the result of *only new growth*. The planned costs are allocated to the net increase in new growth.

The **incremental expansion methodology** documents the current level-of-service (LOS) for each type of public facility. LOS standards are determined using the City's current inventory of capital facilities and assets as well as current costs to construct or purchase comparable facilities or assets. However, Flagstaff will not use the funds for renewal and/or replacement of existing facilities. Rather the City's intent is to use development fee revenue to expand or provide additional facilities, as needed to accommodate new development. An incremental expansion cost method is best suited for public facilities that will be expanded in regular increments, with LOS standards based on current conditions in the community.

A third method, known as the **buy-in methodology** is best suited for facilities that have been oversized in anticipation of growth and have excess capacity available. New development would "buy-in" to the excess capacity of the facility. The rationale for the buy-in approach is that new development will pay for its share of the useful life and remaining capacity of recently constructed facilities.

Figure 1 provides a schedule of the development fees for Flagstaff. Development fees for residential development will be assessed per housing unit and nonresidential development fees will be assessed per square foot of floor area or hotel room. The City may adopt fees that are less than the amounts shown. However, a reduction in development fee revenue will necessitate an increase in other revenues, a decrease in planned capital expenditures and/or a decrease in the City's LOS standards.

Figure 1: Schedule of Development Fees

Residential (per unit)	*Library*	*Parks & Recreation*	*Open Space & Trails*	*Police*	*Fire*	*Public Works*	*General Government*	*Transportation*	*TOTAL*
Single Family Detached	$896	$5,590	$587	$261	$444	$1,195	$353	$5,872	$15,199
Multi-Family	$711	$4,433	$466	$207	$352	$948	$280	$3,595	$10,992
All Other Housing	$864	$5,384	$566	$251	$428	$1,151	$340	$3,061	$12,045
Nonresidential (per square foot/hotel room)									
Commercial / Shopping Center 25,000 SF or less	N/A	N/A	N/A	$1.03	$1.09	$1.39	$0.41	$20.94	$24.85
Commercial / Shopping Center 25,001-50,000 SF	N/A	N/A	N/A	$0.89	$0.94	$1.19	$0.35	$18.19	$21.57
Commercial/Shopping Center 50,001-100,000 SF	N/A	N/A	N/A	$0.74	$0.79	$1.04	$0.31	$15.19	$18.07
Commercial/Shopping Center 100,001-200,000 SF	N/A	N/A	N/A	$0.64	$0.67	$0.92	$0.27	$13.00	$15.51
Commercial/Shopping Center over 200,000 SF	N/A	N/A	N/A	$0.54	$0.57	$0.83	$0.25	$11.05	$13.24
Office 10,000 SF or less	N/A	N/A	N/A	$0.38	$0.40	$1.87	$0.55	$8.41	$11.60
Office 10,001-25,000 SF	N/A	N/A	N/A	$0.30	$0.32	$1.73	$0.51	$6.81	$9.68
Office 25,001-50,000 SF	N/A	N/A	N/A	$0.26	$0.28	$1.63	$0.48	$5.81	$8.46
Office 50,001-100,000 SF	N/A	N/A	N/A	$0.22	$0.23	$1.54	$0.45	$4.95	$7.40
Office 100,000 SF	N/A	N/A	N/A	$0.19	$0.20	$1.40	$0.41	$4.22	$6.42
Business Park	N/A	N/A	N/A	$0.21	$0.22	$1.32	$0.39	$4.74	$6.88
Light Industrial	N/A	N/A	N/A	$0.12	$0.12	$0.96	$0.28	$2.58	$4.07
Warehousing	N/A	N/A	N/A	$0.08	$0.09	$0.53	$0.16	$1.84	$2.70
Manufacturing	N/A	N/A	N/A	$0.06	$0.07	$0.75	$0.22	$1.41	$2.51
Hotel (per room)	N/A	N/A	N/A	$93	$99	$183	$54	$2,092	$2,522

All costs in the development fee calculations are given in current dollars with no assumed inflation rate over time. If cost estimates change significantly, the fees should be recalculated.

It is difficult to compare development fee amounts from community to community. Differences in fee amounts can be attributed to a variety of factors including levels-of-service, community priorities and objectives, services for which the community is responsible for providing, and how a community procures and finances its capital improvements. Also, communities may have adopted less than 100% of the maximum, supportable development fees.

A note on rounding: Calculations throughout this report are based on analysis conducted using Excel software. Results are discussed in the report using one-and two-digit places (in most cases), which represent rounded figures. However, the analysis itself uses figures carried to their ultimate decimal places; therefore the sums and products generated in the analysis may not equal the sum or product if the reader replicates the calculation with the factors shown in the report (due to the rounding of figures shown, not due to rounding in the analysis).

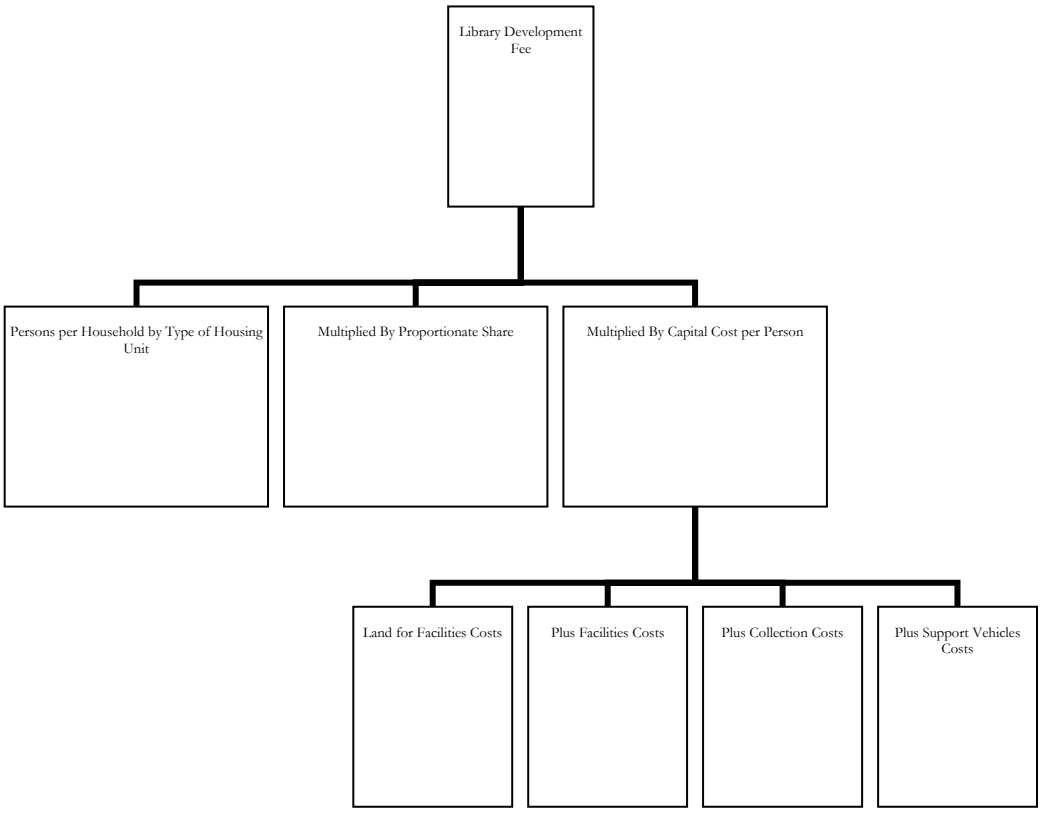
Libraries

METHODOLOGY

Capital costs for the Library Development Fee have been allocated to only residential development and standards are shown on a per capita basis. Average household size is used to differentiate the development fees by type of housing (see Appendix A for demographic information).

The Library Development Fee includes components for land for library facilities, library facilities, library collections, and support vehicles. The incremental expansion methodology is used for all of the components which will allow the City to extend to new residential development the LOS currently being provided to existing residential development.

Figure 2: Library Development Fee Methodology Chart



LAND FOR LIBRARY FACILITIES

The incremental expansion methodology is used to calculate the land component of the Library Development Fee. The first step of the analysis determines the current LOS being provided to existing development. The second step involves determining the cost per person to provide this LOS.

Land for Library Facilities – LOS Analysis

The City currently has 2.07 acres of land for libraries serving the current population of 65,338 persons. Residential development creates 100% of the demand for libraries, thus a residential proportionate share factor of 100% is used. The current land for libraries LOS is calculated as follows: (2.07 acres x 100%)/65,338 persons = 0.0003 acres per person.

Figure 3: Land for Library Facilities LOS Standards

Facility	*Acres*
Main Library	2.07
TOTAL	2.07
Proportionate Share Analysis	
Residential Development	100%
Current Demand Units	
Residential (population)	65,338
Current LOS	
Acres per Person	0.00003

Land for Library Facilities – Cost Analysis

The City Community Improvements Division currently estimates land suitable for a library site to cost $250,000 an acre. The resulting cost factor per person is $7.92 for land for libraries. This is calculated by multiplying the current LOS of 0.0003 acres per person by $250,000 per acre (0.00003 x $250,000 = $7.92).

Figure 4: Land for Library Facilities Cost Standards

Current LOS	
Acres per Person	0.00003
Cost Factor	
Average Cost per Acre*	$250,000
Cost	
Per Person	$7.92

* City of Flagstaff, Community Improvements Division.

LIBRARY FACILITIES

The incremental expansion methodology is used to calculate the facilities component of the Library Development Fee. The first step of calculating the incremental expansion methodology measures the current LOS being provided to existing development. The second step involves determining the cost per person to provide this LOS.

Library Facilities – LOS Analysis

The City currently has 35,000 square feet of library facilities. Residential development generates 100% of the demand for these facilities, thus a residential proportionate share factor of 100% is used to measure the demand of additional residential development in the City. The current population of 65,338 persons is used in the calculation. The current library facilities LOS is calculated as follows: (35,000 square feet x 100%)/65,338 persons = 0.54 square feet per person.

Figure 5: Library Facilities LOS Standards

Facility	*Square Feet*
Main Library	35,000
TOTAL	35,000

Proportionate Share Analysis	
Residential Development	100%
Current Demand Units	
Residential (population)	65,338
Current LOS	
Square Feet per Person	0.54

Library Facilities – Cost Analysis

To provide additional library facilities to new residential development, comparable facilities are estimated to cost $295 per square foot based on data from the City's Community Improvements Division. This results in a cost factor of $158.02 per person. This is calculated by multiplying the current LOS of 0.54 square feet per person by $295 per square foot (0.54 x $295 = $158.02).

Figure 6: Library Facilities Cost Standards

Current LOS		
	Square Feet per Person	0.54
Cost Factor		
	Average Cost per Square Foot*	$295
Cost		
	Per Person	$158.02

* City of Flagstaff, Community Improvements Division.

LIBRARY COLLECTIONS

The incremental expansion methodology is used to calculate the collections component of the Library Development Fee. The first step of calculating the incremental expansion methodology measures the current LOS being provided to existing development. The second step involves determining the cost per person to provide this LOS.

Library Collections – LOS Analysis

The City currently has 223,044 units of library collections. Residential development generates 100% of the demand for these collections, thus a residential proportionate share factor of 100% is used to measure the demand of additional residential development in the City. The current population of 65,338 persons is used in the calculation. The current library collections LOS is calculated as follows: (223,044 x 100%)/65,338 persons = 3.41 units per person.

Figure 7: Library Collections LOS Standards

Collections	*# of Units*
Books	198,589
Books on Tape	5,008
Books on CD	790
CD's	4,035
Videos	11,257
DVD's	3,365
TOTAL	223,044
Proportionate Share Analysis	
Residential Development	100%
Current Demand Units	
Residential (population)	65,338
Current LOS	
Collections per Person	3.41

Library Collections – Cost Analysis

The Library estimates the current inventory of collections to have a total current value of $8,969,405, an average of $40.21 per unit ($8,969,405/223,044 units = $40.21). This results in a cost factor of $137.28 per person. This is calculated by multiplying the current residential LOS of 3.41 units per person by $40.21 per unit (3.41 x $40.21 = $137.28).

Figure 8: Library Facilities Cost Standards

Collections	*# of Units*	*Cost/ Unit**	*TOTAL*
Books	198,589	$40	$7,943,560
Books on Tape	5,008	$90	$450,720
Books on CD	790	$95	$75,050
CD's	4,035	$25	$100,875
Videos	11,257	$25	$281,425
DVD's	3,365	$35	$117,775
TOTAL	223,044		$8,969,405

Average Cost per Unit =>	$40.21
Current LOS	
Collections per Person	3.41
Cost Factor	
Average Cost per Unit*	$40.21
Cost	
Per Person	$137.28

* City of Flagstaff, Libraries.

SUPPORT VEHICLES

The incremental expansion methodology is used to calculate the support vehicles component of the Library Development Fee. The first step of this analysis determines the current LOS being provided to existing development. The second step involves determining the cost per person to provide this LOS.

Support Vehicles– LOS Analysis

The currently has 3 vehicles being used to support libraries. The current vehicles LOS is calculated as follows: 3 units/65,338 persons =0.00005 units per person.

Figure 9: Support Vehicles LOS Standards

Vehicle/Equipment	*# of Units*
Library	
Bookmobile	2
Mini Van	1
TOTAL	3
Proportionate Share Analysis	
Residential Development	100%
Current Demand Units	
Residential (population)	65,338
Current LOS	
Vehicles/Equipment per Person	0.00005

Support Vehicles– Cost Analysis

The City's Fleet Management Division estimates the current inventory of vehicles to have a total value of $522,000, an average of $174,000 per unit. The cost per person is calculated by multiplying the current LOS of 0.00005 units of vehicles per person by $174,000 per vehicle which results in a cost factor of $7.99 per person.

Figure 10: Support Vehicles Cost Standards

Vehicle/Equipment	*# of Units*	*Cost/ Unit**	*TOTAL*
Library			
Bookmobile	2	$250,000	$500,000
Mini Van	1	$22,000	$22,000
TOTAL	3		$522,000
		Average Cost per Vehicle/Equipment =>	$174,000
Current LOS			
Vehicles per Person			0.00005
Cost Factor			
Average Cost per Vehicle/Equipment			$174,000
Cost			
Per Person			$7.99

* City of Flagstaff, Fleet Management Division.

DEVELOPMENT FEE STUDY

The City should update its development fees every three years to ensure the methodologies, assumptions, and cost factors used in the calculations are still valid and accurate. As we do with many of our Arizona development fee clients, TischlerBise has included the cost of preparing the current Library Development Fee in the fee calculations in order to create a source of funding to conduct this regular update. This cost ($5,300) is allocated to the projected increase in population over the next three years. This results in a development fee study cost per demand unit of $1.23 per person ($5,300/4,298 people).

LIBRARY DEVELOPMENT FEE

Figure 11 provides a summary of the cost factors used to calculate the Library Development Fee. As discussed previously, these development fees are calculated for residential land uses only. Developers may be eligible for site-specific credits or reimbursements only if they provide system improvements that have been included in the Library Development Fee calculation schedule. Specific policies and procedures related to site-specific credits for system improvements are addressed in the ordinance that establishes the City's fees. Project improvements normally required as part of the development approval process are not eligible for credits against development fees.

As shown at the bottom of Figure 11, the capital cost per person unit is $312.44 per person.

Figure 11: Library Development Fee Cost Summary

Persons Per Household	
Single Family Detached	2.87
Multi-Family	2.28
All Other Housing	2.76
Cost Per Capita Summary	
Land for Facilities	$7.92
Facilities	$158.02
Collections	$137.28
Vehicles	$7.99
Development Fee Study	$1.23
Total Capital Cost	**$312.44**

Figure 12 contains a schedule of Library Development Fees for Flagstaff. For residential land uses, persons per household are multiplied by the net capital cost per person. Using single family detached units as an example, 2.87 persons per household times $312.44 equals $896 per single family detached housing unit.

Figure 12: Library Development Fee Schedule

Development Fees

	Land for Facilities	*Facilities*	*Collections*	*Vehicles*	*Dev. Fee Study*	*TOTAL*
Single Family Detached	$23	$453	$394	$23	$4	$896
Multi-Family	$18	$360	$312	$18	$3	$711
All Other Housing	$22	$437	$379	$22	$3	$864

Parks and Recreation

METHODOLOGY

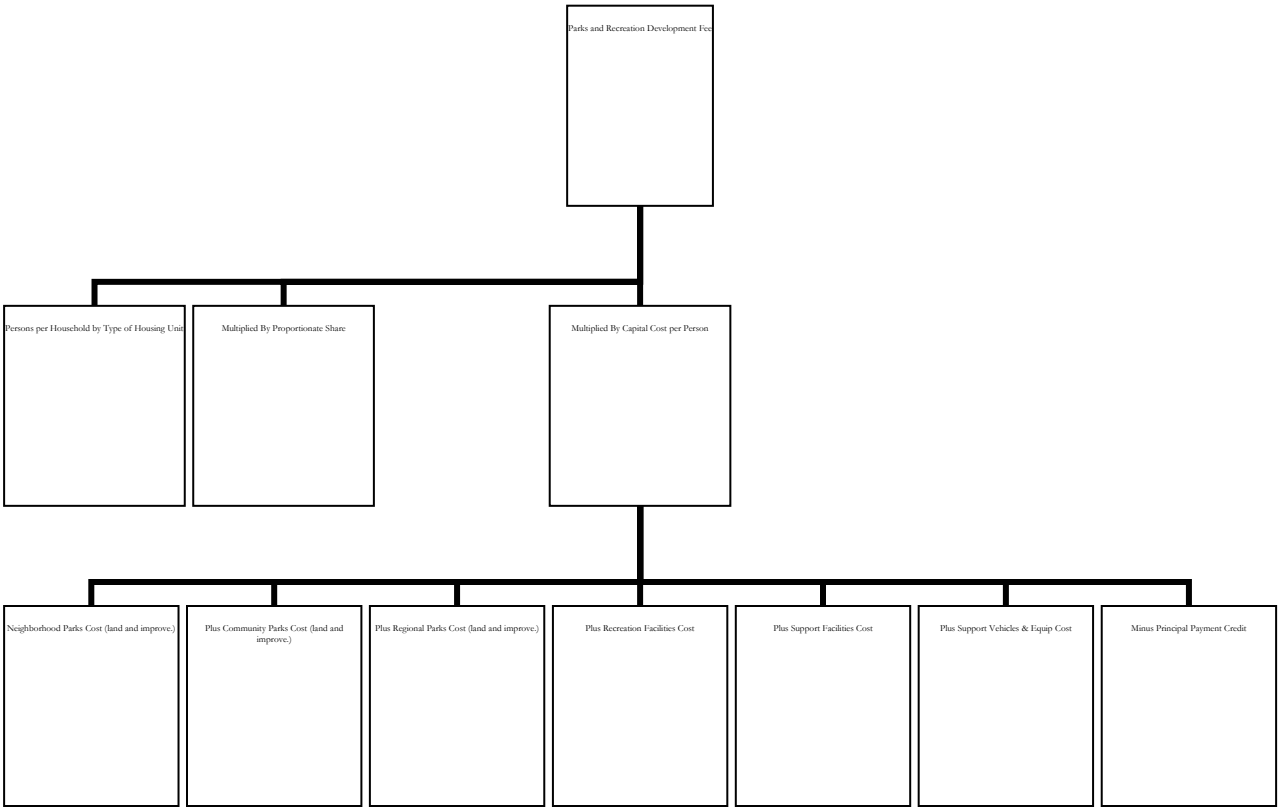
The parks portion of the Parks and Recreation Development Fee consists of land and improvements for neighborhood, community, and regional parks. The incremental expansion methodology is used to calculate these components. Pocket parks and neighborhood parks without fields are not included in the development fee calculations since these parks serve a small geographic area. The LOS for neighborhood and community parks are calculated using the peak population in the City while the LOS for regional parks are calculated using the population of Coconino County.

The recreation facilities component of the Parks and Recreation Development Fee is calculated using the incremental expansion methodology. Support facilities, vehicles, and equipment related to Parks and Recreation activities are included in the development fee calculations utilizing the incremental expansion methodology.

A credit for future principal payments for parks and recreation-related General Obligation (G.O) debt is included to avoid potential double payment.

All capital costs for the Parks and Recreation Development Fee are allocated to only residential development and standards have been shown on a per capita basis. Average household size is used to differentiate the development fees by type of housing (see Appendix A for demographic information).

Figure 13: Parks and Recreation Development Fee Methodology Chart



NEIGHBORHOOD PARKLAND

The incremental expansion methodology is used to calculate the neighborhood parkland component of the Parks and Recreation Development Fee. The parks included in this fee have fields which are used for activities and programs that are used by residents throughout the City.

The first step of calculating the incremental expansion methodology measures the current LOS being provided to existing residential development. The second step involves determining the cost per person to provide this LOS.

Neighborhood Parkland – LOS Analysis

The City currently has 26.8 acres of neighborhood parkland serving the current peak population of 65,338 persons. Residential development creates 100% of the demand for neighborhood parkland, thus a residential proportionate share factor of 100% is used. The current neighborhood parkland LOS is calculated as follows: (26.8 acres x 100%)/65,338 persons = 0.0004 acres per person.

Figure 14: Neighborhood Parkland LOS Standards

Park	*Acreage*
Arroyo Park	8.0
Cheshire Park	13.8
McMillan Mesa Park	2.5
Ponderosa Park	2.5
TOTAL	26.8

Proportionate Share Analysis	
Residential Development	100%
Current Demand Units	
Residential (population)	65,338
Current LOS	
Acres per Person	0.0004

Neighborhood Parkland – Cost Analysis

The City's Community Investment Division and Real Estate Manager estimate land suitable for a neighborhood park to currently cost $500,000 an acre. The resulting cost factor per person is $205.01 for neighborhood parkland. This is calculated by multiplying the current LOS of 0.0004 acres per person by $500,000 per acre (0.00004 x $500,000 = $205.01).

Figure 15: Neighborhood Parkland Cost Standards

Current LOS		
	Acres per Person	0.0004
Cost Factor		
	Average Cost per Acre*	$500,000
Cost		
	Per Person	$205.01

* City of Flagstaff, Community Investment Department and Real Estate Manager.

NEIGHBORHOOD PARK IMPROVEMENTS

The incremental expansion methodology is used to calculate the neighborhood park improvements component of the Parks and Recreation Development Fee.

The first step of calculating the incremental expansion methodology measures the current LOS being provided to existing residential development. The second step involves determining the cost per person to provide this LOS.

Neighborhood Park Improvements – LOS Analysis

The City currently has 8.5 acres of improved neighborhood parks serving the current peak population of 65,338 persons. Residential development creates 100% of the demand for neighborhood park improvements, thus a residential proportionate share factor of 100% is used. The current neighborhood park improvements LOS is calculated as follows: (8.5 acres x 100%)/65,338 persons = 0.0001 improved acres per person.

Figure 16: Neighborhood Park Improvements LOS Standards

Park	*Improved Acreage*
Arroyo Park	1.5
Cheshire Park	2.0
McMillan Mesa Park	2.5
Ponderosa Park	2.5
TOTAL	8.5

Proportionate Share Analysis	
Residential Development	100%
Current Demand Units	
Residential (population)	65,338
Current LOS	
Improved Acres per Person	0.0001

Neighborhood Park Improvements – Cost Analysis

The City's Parks and Recreation Department estimates the current value of the neighborhood park improvements to be $1,233,000, an average of $145,059 per acre ($1,233,000/8.5 acres = $145,009). The cost per person is calculated by multiplying the current LOS of 0.00001 acres of improved neighborhood parks per person by $145,009 per improved acre which results in a cost factor of $18.87 per person.

Figure 17: Neighborhood Park Improvements Cost Standards

Park	*Improved Acreage*	*Baseball**	*Basketball Court**	*Tennis Court**	*Volleyball Court**	*Ramadas**	*Horseshoe Court**	*Playground**	*TOTAL*
Arroyo Park	1.5	$270,000							$270,000
Cheshire Park	2.0		$156,000	$94,000	$15,000				$265,000
McMillan Mesa Park	2.5		$78,000					$135,000	$213,000
Ponderosa Park	2.5		$156,000	$94,000	$15,000	$75,000	$10,000	$135,000	$485,000
TOTAL	8.5								$1,233,000

Average Cost per Improved Acre => $145,059

Current LOS

Improved Acres per Person	0.0001

Cost Factor

Average Cost per Improved Acre	$145,059

Cost

Per Person	$18.87

* City of Flagstaff, Parks & Recreation Department based on bid packages for Thorpe Park and Foxglenn Park.

COMMUNITY PARKLAND

The incremental expansion methodology is used to calculate the community parkland component of the Parks and Recreation Development Fee. The parks included in this fee are utilized citywide as a result of their size, amenities, and programming.

The first step of calculating the incremental expansion methodology measures the current LOS being provided to existing residential development. The second step involves determining the cost per person to provide this LOS.

Community Parkland – LOS Analysis

The City currently has 88.6 acres of community parkland serving the current peak population of 65,338 persons. Residential development creates 100% of the demand for community parkland, thus a residential proportionate share factor of 100% is used. The current community parkland LOS is calculated as follows: (88.6 acres x 100%)/65,338 persons = 0.0014 acres per person.

Figure 18: Community Parkland LOS Standards

Park	*Acreage*
Bushmaster Park	20.0
Foxglenn Park	28.3
McPherson Park	40.3
TOTAL	88.6

Proportionate Share Analysis	
Residential Development	100%
Current Demand Units	
Residential (population)	65,338
Current LOS	
Acres per Person	0.0014

Community Parkland – Cost Analysis

The City's Community Investment Division and Real Estate Manager estimate land suitable for a community park to currently cost $350,000 an acre. The resulting cost factor per person is $474.61 for community parkland. This is calculated by multiplying the current LOS of 0.0014 acres per person by $350,000 per acre (0.0014 x $350,000 = $474.61).

Figure 19: Community Parkland Cost Standards

Current LOS		
	Acres per Person	0.0014
Cost Factor		
	Average Cost per Acre*	$350,000
Cost		
	Per Person	$474.61

* City of Flagstaff, Community Investment Department and Real Estate Manager.

COMMUNITY PARK IMPROVEMENTS

The incremental expansion methodology is used to calculate the community park improvements component of the Parks & Recreation Development Fee. The parks included in this fee have citywide benefits as a result of their size, amenities, and programming.

The first step of calculating the incremental expansion methodology measures the current LOS being provided to existing development. The second step involves determining the cost per person to provide this LOS.

Community Park Improvements – LOS Analysis

The City currently has 53.8 acres of improved community parkland serving the current peak population of 65,338 persons. Residential development creates 100% of the demand for community park improvements, thus a residential proportionate share factor of 100% is used. The current community park improvements LOS is calculated as follows: (53.8 acres x 100%)/65,338 persons = 0.0008 improved acres per person.

Figure 20: Community Park Improvements LOS Standards

Park	*Improved Acreage*
Bushmaster Park	14.0
Foxglenn Park	28.3
McPherson Park	11.5
TOTAL	53.8

Proportionate Share Analysis
Residential Development 100%

Current Demand Units
Residential (population) 65,338

Current LOS
Improved Acres per Person 0.0008

Community Park Improvements – Cost Analysis

The City's Parks & Recreation Department estimates the current inventory of improved community parkland to have a total value of $4,791,000; an average of $89,052 per acre ($4,791,000/53.8 acres = $89,052). The cost per person is calculated by multiplying the current LOS of 0.0008 acres of improved community parks per person by $$89,052 per acre which results in a cost factor of $73.33 per person.

Figure 21: Community Park Improvements Cost Standards

Park	*Improved Acreage*	*Baseball Field**	*Basketball Court**	*Soccer Field**	*Tennis Court**	*Volleyball Court**	*Restrooms**	*Ramadas**	*Skate Track/ BMX**	*Horseshoe Court**	*Playground**	*Disc Golf Course**	*TOTAL*
Bushmaster Park	14.0		$156,000		$188,000	$15,000	$300,000	$150,000	$250,000	$40,000	$200,000		$1,299,000
Foxglenn Park	28.3	$270,000	$117,000	$1,200,000			$300,000	$225,000	$250,000		$200,000		$2,562,000
McPherson Park	11.5		$78,000		$282,000		$300,000			$20,000	$200,000	$50,000	$930,000
TOTAL	53.8												$4,791,000

Average Cost per Improved Acre => $89,052

Current LOS
Improved Acres per Person 0.0008

Cost Factor
Average Cost per Improved Acre $89,052

Cost
Per Person $73.33

* City of Flagstaff, Parks & Recreation Department.

REGIONAL PARKLAND

The incremental expansion methodology is used to calculate the regional parkland component of the Parks and Recreation Development Fee. These parks serve residents from both the City of Flagstaff and Coconino County. Thus the projected July 1, 2006 (FY2007) population projection for

Coconino County from the Arizona Department of Economic Security is used to determine the current LOS.

The first step of calculating the incremental expansion methodology measures the current LOS being provided to existing residential development. The second step involves determining the cost per person to provide this LOS.

Regional Parkland – LOS Analysis

The City currently has 539.9 acres of regional parkland serving the current population of 132,826 persons in Coconino County. Residential development creates 100% of the demand for regional parkland, thus a residential proportionate share factor of 100% is used. The current regional parkland LOS is calculated as follows: (539.9 acres x 100%)/132,826 persons = 0.0041 acres per person.

Figure 22: Regional Parkland LOS Standards

Park	*Acreage*
Buffalo Park	215.0
Continental Park	105.9
Thorpe Park	219.0
TOTAL	539.9

Proportionate Share Analysis		
	Residential Development	100%
Current Demand Units		
	Coconino County Population*	132,826
Current LOS		
	Acres per Person	0.0041

* Arizona Department of Economic Security projection FY2007.

Regional Parkland – Cost Analysis

The City's Community Investment Division and Real Estate Manager estimate land suitable for a regional park to currently cost $250,000 an acre. The resulting cost factor per person is $1,016.18 per person for regional parkland. This is calculated by multiplying the current LOS of 0.0041 acres per person by $250,000 per acre (0.0041 x $250,000 = $1,016.18).

Figure 23: Regional Parkland Cost Standards

Current LOS		
	Acres per Person	0.0041
Cost Factor		
	Average Cost per Acre*	$250,000
Cost		
	Per Person	$1,016.18

* City of Flagstaff, Community Investment Department and Real Estate Manager.

REGIONAL PARK IMPROVEMENTS

The incremental expansion methodology is used to calculate the regional park improvements component of the Parks and Recreation Development Fee. The first step of calculating the incremental expansion methodology measures the current LOS being provided to existing development. The second step involves determining the cost per person to provide this LOS.

Regional Park Improvements – LOS Analysis

The City currently has 57.0 acres of improved regional parkland serving the current population in the county of 132,826 persons. Residential development creates 100% of the demand for regional park improvements, thus a residential proportionate share factor of 100% is used. The current regional park improvements LOS is calculated as follows: (57.0 acres x 100%)/132,826 persons = 0.0004 acres per person.

Figure 24: Regional Park Improvements LOS Standards

Park	*Improved Acreage*
Buffalo Park	12.0
Continental Park	15.0
Thorpe Park	30.0
TOTAL	57.0

Proportionate Share Analysis		
	Residential Development	100%
Current Demand Units		
	Coconino County Population*	132,826
Current LOS		
	Improved Acres per Person	0.0004

* Arizona Department of Economic Security projection FY2007.

Regional Park Improvements – Cost Analysis

The City's Parks and Recreation Department estimates the current inventory of improved regional parks to have a value of $9,932,000, an average of $174,246 per acre ($9,932,000/57.0 acres = $174,246). The cost per person is calculated by multiplying the current LOS of 0.0004 improved acres per person by $174,246 per acre which results in a cost factor of $74.77 per person.

Figure 25: Regional Park Improvements Cost Standards

Park	*Improved Acreage*	*Baseball*	*Softball (Lit)*	*Basketball Court*	*Soccer Field*	*Tennis Court*	*Volleyball Court*	*Restrooms*	*Ramadas*	*Raquetball Court*	*Horseshoe Court*	*Playground*	*Disc Golf Course*	*TOTAL*
Buffalo Park	12.0							$300,000	$75,000					$375,000
Continental Park	15.0	$675,000			$1,800,000			$300,000				$200,000		$2,975,000
Thorpe Park	30.0	$810,000	$2,700,000	$78,000	$1,200,000	$564,000	$15,000	$600,000	$75,000	$70,000	$20,000	$400,000	$50,000	$6,582,000
TOTAL	57.0													$9,932,000

Average Cost per Improved Acre => $174,246

Current LOS		
	Improved Acres per Person	0.0004
Cost Factor		
	Average Cost per Improved Acre	$174,246
Cost		
	Per Person	$74.77

* City of Flagstaff, Parks & Recreation Department.

RECREATION FACILITIES

The incremental expansion methodology is used to calculate the recreation facilities component of the Parks and Recreation Development Fee. The first step of calculating the incremental expansion

methodology measures the current LOS being provided to existing residential development. The second step involves determining the cost per person to provide this LOS.

Recreation Facilities – LOS Analysis

The City currently has 62,871 square feet of recreation facilities. Residential development generates 100% of the demand for recreation facilities, thus a residential proportionate share factor of 100% is used to measure the demand of additional residential development in the City. The current population of 65,338 persons is used in the calculation. The current recreation facilities LOS is calculated as follows: (62,871 square feet x 100%)/65,338 persons = 0.96 square feet per person.

Figure 26: Recreation Facilities LOS Standards

Facility	*Square Feet*
Flagstaff Recreation Center	16,808
Cogdill Recreation Center	8,752
Adult Center	9,246
J. Lively Ice Rink	28,065
TOTAL	62,871
Proportionate Share Analysis	
Residential Development	100%
Current Demand Units	
Residential (population)	65,338
Current LOS	
Square Feet per Person	0.96

Recreation Facilities – Cost Analysis

To provide additional recreation facilities to new residential development, comparable recreation facilities are estimated to cost an average of $230 per square foot based the value of the current facilities ($14,469,585/62,871 square feet = $230 per square foot). This results in a cost factor of $221.46 per person. This is calculated by multiplying the current LOS of 0.96 square feet per person by $230 per square foot (0.96 x $230 = $221.46).

Figure 27: Recreation Facilities Cost Standards

Facility	*Square Feet*	*Cost/ SF**	*Total*
Flagstaff Recreation Center	16,808	$225	$3,781,800
Cogdill Recreation Center	8,752	$225	$1,969,200
Adult Center	9,246	$260	$2,403,960
J. Lively Ice Rink	28,065	$225	$6,314,625
TOTAL	62,871		$14,469,585

Average Cost per Square Foot =>	$230
Current LOS	
Square Feet per Person	0.96
Cost Factor	
Average Cost per Square Foot	$230
Cost	
Per Person	$221.46

* City of Flagstaff, Community Improvements Division.

SUPPORT FACILITIES

The incremental expansion methodology is used to calculate the support facilities component of the Parks and Recreation Development Fee. The first step of calculating the incremental expansion methodology measures the current LOS being provided to existing residential development. The second step involves determining the cost per person to provide this LOS.

Support Facilities – LOS Analysis

The City currently has 2,060 square feet of support facilities for Parks and Recreation. Residential development generates 100% of the demand for support facilities, thus a residential proportionate share factor of 100% is used to measure the demand of additional residential development in the City. The current population of 65,338 persons is used in the calculation. The current support facilities LOS is calculated as follows: (2,060 square feet x 100%)/65,338 persons = 0.03 square feet per person.

Figure 28: Support Facilities LOS Standards

Facility	*Square Feet*
City Hall (Parks & Recreation share)	2,060
TOTAL	2,060
Proportionate Share Analysis	
Residential Development	100%
Current Demand Units	
Residential (population)	65,338
Current LOS	
Square Feet per Person	0.03

Support Facilities – Cost Analysis

To provide additional support facilities to new residential development, comparable support facilities are estimated to cost an average of $295 per square foot. This results in a cost factor of $9.30 per person. This is calculated by multiplying the current LOS of 0.03 square feet per person by $295 per square foot (0.03 x $295 = $9.30).

Figure 29: Support Facilities Cost Standards

Current LOS	
Square Feet per Person	0.03
Cost Factor	
Cost per Square Foot*	$295
Cost	
Per Person	$9.30

* City of Flagstaff, Community Improvements Division.

SUPPORT VEHICLES & EQUIPMENT

As new growth requires additional parks and recreation facilities, additional support vehicles and equipment will be needed. The incremental expansion methodology is used to calculate this component of the fee. The first step of this analysis determines the current LOS being provided to existing development. The second step involves determining the cost per person to provide this LOS.

Support Vehicles & Equipment – LOS Analysis

The City currently has 61 vehicles and pieces of equipment being used to support parks and recreation activities. Residential development in the City creates 100% of the demand for these assets, thus a residential proportionate share factor of 100% is used. The current vehicles and equipment LOS is calculated as follows: (61 units x 100%)/65,338 persons = 0.001 units per person.

Figure 30: Support Vehicle & Equipment LOS Standards

Vehicle/Equipment	*# of Units*
Parks	
1/2 Ton 4x4 Pickups	4
3/4 Ton 4x4 Pickups w/ Utility Beds	8
1 Ton Pickups w/ Utility beds/Dump beds	5
Backhoe	1
Trailers	8
Tractors	4
Skid Steer Loaders	3
Compressor	1
Cement Mixer	1
Trencher	1
Sprayer	1
Topdresser	2
Tamper	1
Seeder	1
Rake-o-Vac	1
Gator Utility Vehicle	1
Steam Cleaner w/ Trailer	1
Soil Reliever	1
Green Sweeper Machine	1
Toro 580D Mower	1
Recreation	
Full-size Sedan	1
3/4 Ton Pickup	2
Trailers	4
Vans	2
Zamboni Ice Resurfacer	2
Ice Rink Compressors	3
TOTAL	61
Proportionate Share Analysis	
Residential Development	100%
Current Demand Units	
Residential (population)	65,338
Current LOS	
Vehicles/Equipment per Person	0.001

Support Vehicles & Equipment – Cost Analysis

The City's Parks and Recreation Department estimates the current inventory of vehicles and equipment to have a total value of $1,610,200, an average of $26,397 per unit ($1,610,200/61 units = $26,397). The cost per person is calculated by multiplying the current LOS of 0.001 units of vehicles and equipment per person by $26,397 per unit which results in a cost factor of $24.64 per person.

Figure 31: Support Vehicles & Equipment Cost Standards

Vehicle/Equipment	*# of Units*	*Cost/ Unit**	*TOTAL*
Parks			
1/2 Ton 4x4 Pickups	4	$20,000	$80,000
3/4 Ton 4x4 Pickups w/ Utility Beds	8	$26,000	$208,000
1 Ton Pickups w/ Utility beds/Dump b	5	$27,000	$135,000
Backhoe	1	$88,000	$88,000
Trailers	8	$15,000	$120,000
Tractors	4	$33,000	$132,000
Skid Steer Loaders	3	$32,000	$96,000
Compressor	1	$10,000	$10,000
Cement Mixer	1	$2,500	$2,500
Trencher	1	$14,000	$14,000
Sprayer	1	$4,000	$4,000
Topdresser	2	$20,500	$41,000
Tamper	1	$4,000	$4,000
Seeder	1	$7,000	$7,000
Rake-o-Vac	1	$31,000	$31,000
Gator Utility Vehicle	1	$20,000	$20,000
Steam Cleaner w/ Trailer	1	$13,000	$13,000
Soil Reliever	1	$30,000	$30,000
Green Sweeper Machine	1	$32,000	$32,000
Toro 580D Mower	1	$82,500	$82,500
Recreation			
Full-size Sedan	1	$22,200	$22,200
3/4 Ton Pickup	2	$26,000	$52,000
Trailers	4	$15,000	$60,000
Vans	2	$22,000	$44,000
Zamboni Ice Resurfacer	2	$58,500	$117,000
Ice Rink Compressors	3	$55,000	$165,000
TOTAL	61		$1,610,200

Average Cost per Vehicle/Equipment =>	$26,397
Current LOS	
Vehicles per Person	0.001
Cost Factor	
Average Cost per Vehicle/Equipment	$26,397
Cost	
Per Person	$24.64

* City of Flagstaff, Fleet Management Division.

PRINCIPAL PAYMENT CREDITS

Flagstaff will be making payments on General Obligation (G.O.) bonds have financed the parks and recreation infrastructure. To avoid potential double payment for these projects, a principal payment credit is calculated and deducted from the development fee calculation. Because interest costs have not been added to the development fees, a credit is not necessary for future interest payments. Due to the time value of future payments, a net present value adjustment is used in the calculation of the credit. The credit is calculated to be $171.25 per person.

Figure 32: Principal Payment Credits

Fiscal Year	*Principal Payment*	*Projected Population*	*Credit per Capita*
2007	$1,606,000	65,338	$24.58
2008	$1,190,667	66,738	$17.84
2009	$983,667	68,171	$14.43
2010	$1,031,667	69,636	$14.82
2011	$1,112,333	71,135	$15.64
2012	$1,143,000	72,669	$15.73
2013	$1,181,000	74,237	$15.91
2014	$1,223,667	75,842	$16.13
2015	$756,000	77,484	$9.76
2016	$798,000	79,164	$10.08
2017	$840,000	80,882	$10.39
2018	$882,000	82,640	$10.67
2019	$924,000	84,438	$10.94
2020	$966,000	86,278	$11.20
2021	$1,008,000	88,159	$11.43
2022	$1,050,000	90,085	$11.66
2023	$1,094,333	92,054	$11.89
2024	$809,667	94,069	$8.61
TOTAL	$18,600,000		$241.69
		Interest Rate	4.50%
		Net Present Value	$171.75

DEVELOPMENT FEE STUDY

The City should update its development fees every three years to ensure the methodologies, assumptions, and cost factors used in the calculations are still valid and accurate. As we do with many of our Arizona development fee clients, TischlerBise has included the cost of preparing the current Parks and Recreation Development Fee in the fee calculations in order to create a source of funding to conduct this regular update. The cost of this component ($7,800) is allocated to the projected increase in population over the next three years. This results in a development fee study cost per demand unit of $1.81 per person ($7,800/4,298 people).

PARKS AND RECREATION DEVELOPMENT FEE

A summary of the cost factors used to calculate the Parks and Recreation Development Fee is shown below. Developers may be eligible for site-specific credits or reimbursements only if they provide system improvements that have been included in the Parks and Recreation Development Fee calculation schedule. Specific policies and procedures related to site-specific credits for system improvements are addressed in the ordinance that establishes the City's fees. Project improvements normally required as part of the development approval process are not eligible for credits against development fees.

As shown at the bottom of the table below, the total net capital cost per person is $1,948.24.

Figure 33: Parks and Recreation Development Fee Cost Summary

Persons Per Household	
Single Family Detached	2.87
Multi-Family	2.28
All Other Housing	2.76
Cost Per Capita Summary	
Neighborhood Park Land	$205.01
Neighborhood Park Improvements	$18.87
Community Park Land	$474.61
Community Park Improvements	$73.33
Regional Park Land	$1,016.18
Regional Park Improvements	$74.77
Recreation Facilities	$221.46
Support Vehicles & Equipment	$24.64
Support Facilities	$9.30
Less Principal Payment Credit	-$171.75
Development Fee Study	$1.81
Total Capital Cost	**$1,948.24**

Figure 34 lists the schedule of Parks and Recreation Development Fees for Flagstaff. The number of persons per household for each category of housing is multiplied by the net capital cost per person. Using the single family detached units as an example, 2.87 persons per household is multiplied by $1,948.24 per person which yields a Parks and Recreation Development Fee of $5,590 per single family detached unit.

Figure 34: Parks and Recreation Development Fee Schedule

Development Fees	*Neigh. Park Land*	*Neigh. Park Improve.*	*Comm. Park Land*	*Comm. Park Improve.*	*Regional Park Land*	*Regional Park Improve.*	*Rec. Facilities*	*Support Vehicles Veh. Equip.*	*Support Facilities*	*Credit*	*Dev. Fee Study*	*TOTAL*
Single Family Detached	$588	$54	$1,362	$210	$2,916	$215	$635	$71	$27	-$493	$5	$5,590
Multi-Family	$467	$43	$1,080	$167	$2,312	$170	$504	$56	$21	-$391	$4	$4,433
All Other Housing	$567	$52	$1,312	$203	$2,808	$207	$612	$68	$26	-$475	$5	$5,384

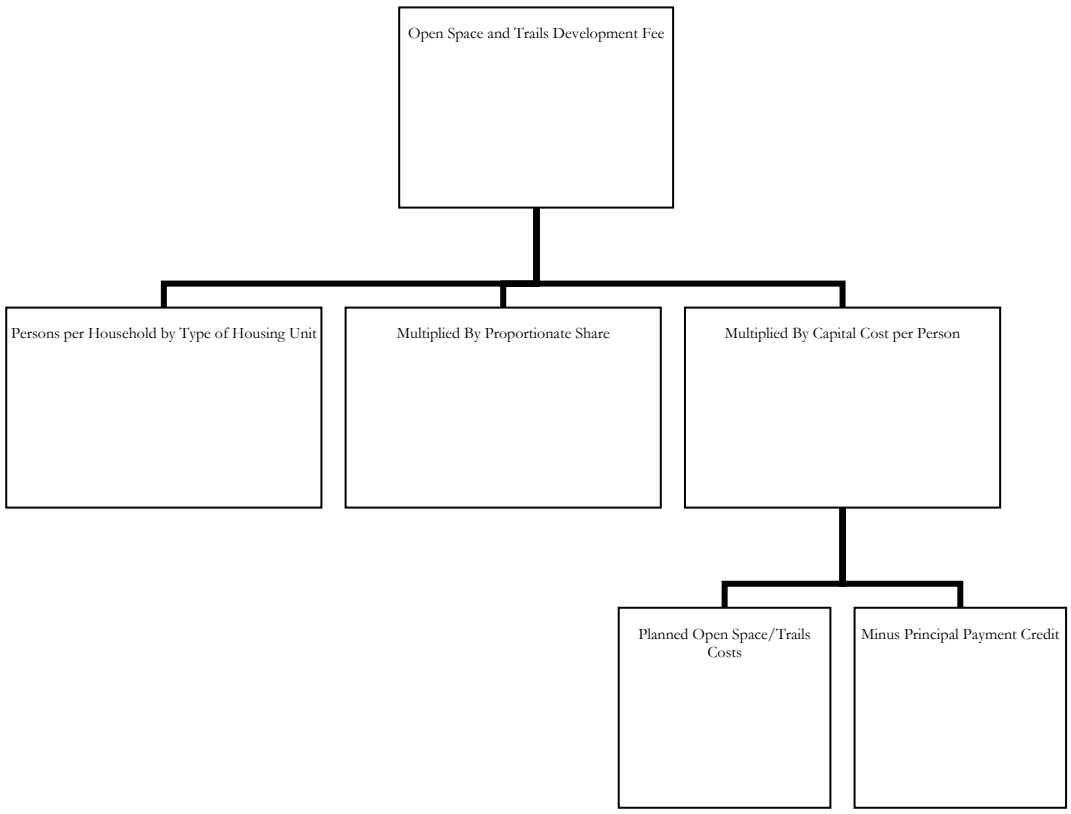
Open Space and Trails

METHODOLOGY

Capital costs for the Open Space and Trails Development Fee have been allocated to only residential development and standards are shown on a per capita basis. Average household size is used to differentiate the development fees by type of housing (see Appendix A for demographic information).

The Open Space and Trails Development Fee includes components for planned open space and trails projects and credit for future principal payments for General Obligation debt payments for open space and trails projects.

Figure 35: Open Space and Trails Development Fee Methodology Chart



OPEN SPACE AND TRAILS

The plan-based expansion methodology is used to calculate the open space and trails component.

Open Space and Trails – Cost Analysis

The City' CIP lists a total of $16,647,721 over the next five years to purchase open space and trails. These purchases will provide sufficient capacity through FY2012, thus the projected peak population in FY2012 is used in the calculation. The cost per person is calculated by dividing the planned cost of $16,647,721 by 74,237 persons in FY2012 which results in a cost factor of $224.25 per person.

Figure 36: Open Space and Trails Cost Standards

Project	*Prior Years*	*FY2007*	*FY2008*	*FY2009*	*FY2010*	*FY2011*	*FY2012*	*TOTAL*
FUTS/Open Space Acquisition	$1,403,453	$1,422,321	$500,000	$0	$1,500,000	$0	$1,500,000	$6,325,774
Special Projects (Development Agreements)	$0	$58,000	$25,000	$25,000	$25,000	$25,000	$25,000	$183,000
Signage	$335,488	$167,744	$327,266	$0	$0	$0	$0	$830,498
Private Development	$150,000	$150,000	$0	$0	$0	$0	$0	$300,000
McMillian Mesa Trailhead	$0	$50,000	$0	$0	$0	$0	$0	$50,000
Rio North-Cresent to Observatory Mesa Trailhead	$231,315	$262,400	$0	$0	$0	$0	$0	$493,715
Fort Valley Trail (Sechrist to Fremont)	$535,650	$538,851	$0	$0	$0	$0	$0	$1,074,501
McMillian Mesa Bridge	$75,268	$78,877	$0	$0	$0	$0	$0	$154,145
Rt66 Trail Rio North Trail to San Francisco	$35,094	$96,439	$0	$0	$0	$0	$0	$131,533
Santa Fe-West Village to Walnut BNSF	$183,000	$910,743	$384,889	$384,889	$384,889	$384,889	$0	$2,633,299
Santa Fe-West Walnut to Rio N	$124,703	$910,142	$0	$0	$0	$0	$0	$1,034,845
Hospital Rim Trail	$0	$0	$100,000	$0	$0	$0	$0	$100,000
Rio North-Blue Hollow to Hwy 180	$130,000	$353,019	$0	$0	$0	$0	$0	$483,019
Little A-Arizona Trail to Herold Rn Rd	$0	$24,878	$53,514	$0	$0	$0	$0	$78,392
Lone Tree Sinclair to Arroyo Park Trail	$0	$0	$300,000	$0	$0	$0	$0	$300,000
Lake Mary Zuni Trail to JWP	$0	$0	$0	$450,000	$450,000	$0	$0	$900,000
JWP Lone Tree to Arizona Trail	$0	$0	$0	$0	$0	$0	$500,000	$500,000
Bow and Arrow CCC to Arizona Trail	$0	$0	$0	$0	$225,000	$225,000	$0	$450,000
Fort Valley Trail (Kendrick to Sechrist)	$0	$0	$500,000	$0	$0	$0	$0	$500,000
Unprogrammed Work	$0	$0	$25,000	$25,000	$25,000	$25,000	$25,000	$125,000
TOTAL	**$3,203,971**	**$5,023,414**	**$2,215,669**	**$884,889**	**$2,609,889**	**$659,889**	**$2,050,000**	**$16,647,721**

Source: City of Flagstaff, *FY2007 Capital Improvement Program*.

Projected Peak Population FY2012 74,237

Cost per Person $224.25

PRINCIPAL PAYMENT CREDITS

Flagstaff will be making payments on General Obligation (G.O.) bonds that will finance the planned open space and trail purchases. To avoid potential double payment for these projects, a principal payment credit is calculated and deducted from the development fee calculation. Because interest costs have not been added to the development fees, a credit is not necessary for future interest payments. Due to the time value of future payments, a net present value adjustment is used in the calculation of the credit. The credit is calculated to be $20.52 per person.

Figure 37: Principal Payment Credits

Fiscal Year	*Principal Payment*	*Projected Population*	*Credit per Capita*
2007	$186,286	65,338	$2.85
2008	$89,905	66,738	$1.35
2009	$94,476	68,171	$1.39
2010	$99,048	69,636	$1.42
2011	$103,238	71,135	$1.45
2012	$107,429	72,669	$1.48
2013	$112,000	74,237	$1.51
2014	$117,333	75,842	$1.55
2015	$123,429	77,484	$1.59
2016	$130,286	79,164	$1.65
2017	$137,143	80,882	$1.70
2018	$144,000	82,640	$1.74
2019	$150,857	84,438	$1.79
2020	$157,714	86,278	$1.83
2021	$164,571	88,159	$1.87
2022	$171,429	90,085	$1.90
2023	$178,667	92,054	$1.94
2024	$132,190	94,069	$1.41
TOTAL	$2,400,000		$30.40
		Interest Rate	4.50%
		Net Present Value	$20.52

DEVELOPMENT FEE STUDY

The City should update its development fees every three years to ensure the methodologies, assumptions, and cost factors used in the calculations are still valid and accurate. As we do with many of our Arizona development fee clients, TischlerBise has included the cost of preparing the current Open Space and Trails Development Fee in the fee calculations in order to create a source of funding to conduct this regular update. This cost ($4,400) is allocated to the projected increase in population over the next three years. This results in a development fee study cost per demand unit of $1.02 per person ($4,400/4,298 people).

OPEN SPACE AND TRAILS DEVELOPMENT FEE

Figure 38 provides a summary of the cost factors used to calculate the Open Space and Trails Development Fee. As discussed previously, these development fees are calculated for residential land uses only. Developers may be eligible for site-specific credits or reimbursements only if they provide system improvements that have been included in the Open Space and Trails Development

Fee calculation schedule. Specific policies and procedures related to site-specific credits for system improvements are addressed in the ordinance that establishes the City's fees. Project improvements normally required as part of the development approval process are not eligible for credits against development fees.

As shown at the bottom of Figure 38, the capital cost per person unit is $204.75 per person.

Figure 38: Open Space and Trails Development Fee Cost Summary

Persons Per Household	
Single Family Detached	2.87
Multi-Family	2.28
All Other Housing	2.76
Cost Per Capita Summary	
Planned Open Space/Trails	$224.25
Less Credit for Future Principal Payments	-$20.52
Development Fee Study	$1.02
Total Capital Cost	**$204.75**

Figure 39 contains a schedule of Open Space and Trails Development Fees for Flagstaff. For residential land uses, persons per household are multiplied by the net capital cost per person. Using single family detached units as an example, 2.87 persons per household times $204.75 equals $587 per single family detached housing unit.

Figure 39: Library Development Fee Schedule

Development Fees

	Open Space/ Trails	*Credit*	*Dev. Fee Study*	*TOTAL*
Single Family Detached	$643	-$59	$3	$587
Multi-Family	$510	-$47	$2	$466
All Other Housing	$620	-$57	$3	$566

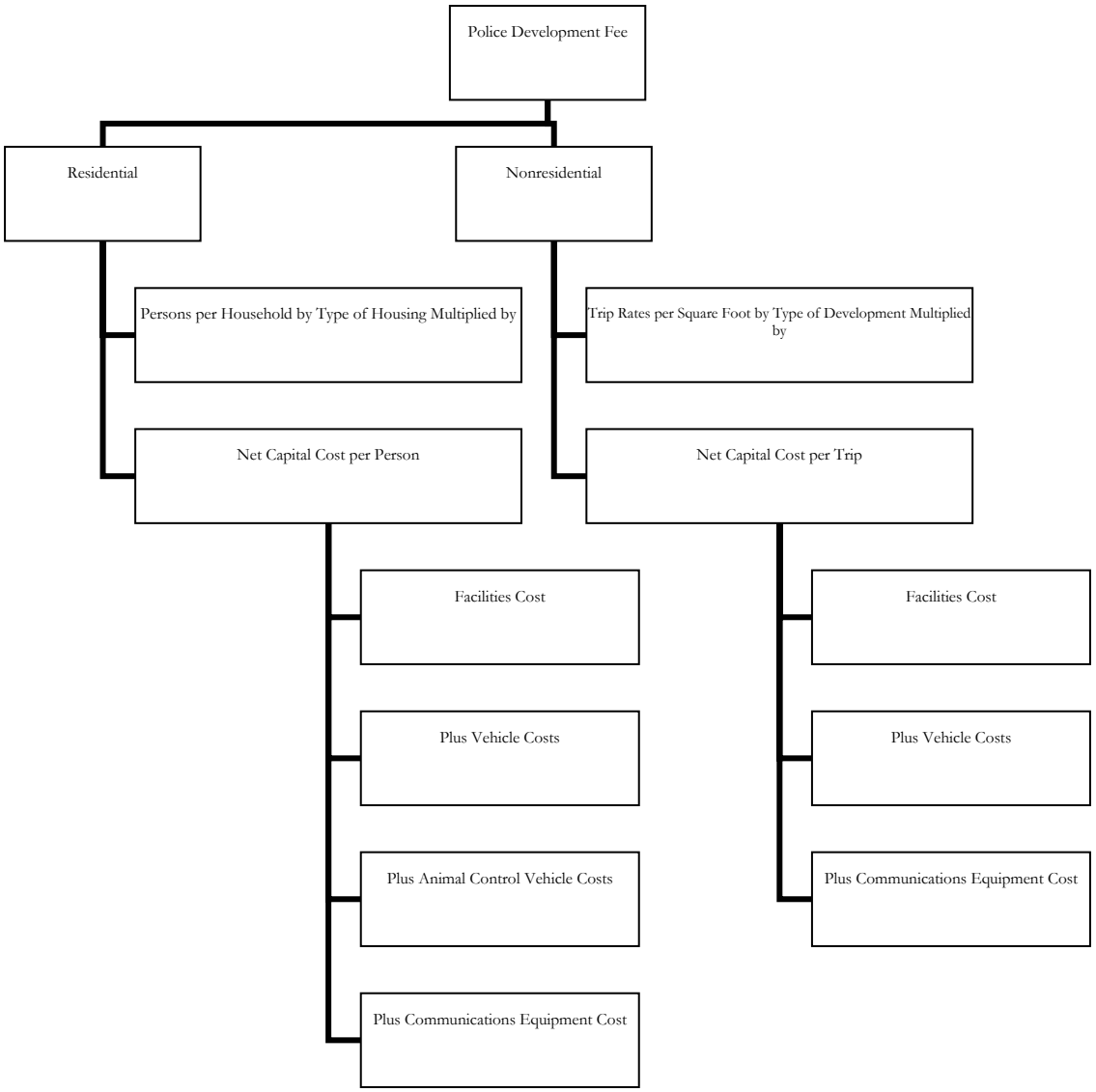
Police

METHODOLOGY

The Police Development Fee uses different demand indicators for residential and nonresidential development. Residential development fees are calculated on a per capita basis and then converted to an appropriate amount by type of housing based on household size. To calculate nonresidential development fees, nonresidential vehicle trips are the best demand indicator for police services and infrastructure as they are the best measure of the presence of people (employees, shoppers, visitors) at nonresidential land uses. Nonresidential vehicle trip rates account for all of these factors. Trip generation rates are highest for commercial developments, such as shopping centers, and lowest for industrial/warehouse developments. Office/institutional trip rates fall between the other two categories.

The Police Development Fee includes components for facilities, police vehicles, animal control vehicles, and communications equipment. The incremental expansion methodology is used to calculate all of these components.

Figure 40: Police Development Fee Methodology



PROPORTIONATE SHARE FACTORS

Calls for service data provided by the Police Department are used to determine the relative demand for service from residential and nonresidential development. The proportionate share factor for residential development is 44%, with nonresidential development accounting for 56% of the

demand for police infrastructure and assets. Road related calls are omitted because they cannot be allocated to residential or nonresidential development in that a person could be on their way home, or to work, or passing through the City. This should not be interpreted as implying that road-related calls for service have no impact on the Police Department.

Figure 41: Police Proportionate Share Factors

	*July 2005**	*January 2006**	*TOTAL*	
Residential Addresses	658	689	1,347	44%
Nonresidential Addresses	855	870	1,725	56%
TOTAL	1,513	1,559	3,072	100%

* City of Flagstaff Police Department. Does not include road related calls for service.

POLICE FACILITIES

The incremental expansion methodology is used to calculate the facilities component of the Police Development Fee. The first step of calculating the incremental expansion methodology measures the current LOS being provided to existing residential and nonresidential development. The second step involves determining the cost per person and nonresidential vehicle trip to provide this LOS.

Police Facilities – LOS Analysis

The City currently has 46,748 square feet of facilities used by the Police Department. Based on the proportionate share analysis above, residential development creates 44% of the demand for police facilities, with nonresidential development accounting for 56% of the demand. The current police facility LOS for residential development is calculated as follows: ((46,478 square feet x 44%)/65,338 persons) = 0.31 square feet per person. This calculation is repeated for nonresidential development resulting in a LOS of 0.12 square feet per nonresidential vehicle trip.

Figure 42: Police Facilities LOS Standards

Facility	*Square Feet*
LEAF Facility (City Police share)	38,748
Police Share of Coconino Facility	8,000
TOTAL	46,748

Proportionate Share Analysis	
Residential Development	44%
Nonresidential Development	56%
Current Demand Units	
Residential (population)	65,338
Nonresidential (vehicle trips)	226,678
Current LOS	
Square Feet per Person	0.31
Square Feet per Nonres Vehicle Trip	0.12

Police Facilities – Cost Analysis

To provide additional police facilities to new development, the City's Community Improvements Division estimates the cost to be $225 per square foot. The cost per person is calculated by multiplying the current LOS of 0.31 square feet per person by $225 per square foot which results in a cost per person of $70.59 (0.31 x $225 = $70.59). This calculation is repeated using the nonresidential data, resulting in a cost per nonresidential vehicle trip of $26.06

Figure 43: Police Facilities Cost Standards

Current LOS	
Square Feet per Person	0.31
Square Feet per Nonres Vehicle Trip	0.12
Cost Factor	
Cost per Square Foot*	$225
Cost	
Per Person	$70.59
Per Nonre Vehicle Trip	$26.06

* City of Flagstaff, Community Improvements Division.

POLICE VEHICLES

The incremental expansion methodology is used to calculate the police vehicles component of the Police Development Fee. The first step of the analysis determines the current LOS being provided to existing development. The second step involves determining the cost per person and nonresidential vehicle trip to provide this LOS.

Police Vehicles – LOS Analysis

The City's current fleet of police vehicles totals 75 units. Based on the proportionate share analysis, residential development creates 44% of the demand for police vehicles, with nonresidential development accounting for 56% of the demand. The current police vehicle LOS for residential development is calculated as follows: ((75 vehicles x 44%)/65,338 persons) = 0.0005 vehicles per person. This calculation is repeated for nonresidential development resulting in a LOS of 0.0002 vehicles per nonresidential vehicle trip.

Figure 44: Police Vehicles LOS Standards

Vehicle	*# of Units*
Patrol Sedan	27
Patrol Motorcycle	4
Patrol Motorcycle Trainer	3
Patrol Utility Vehicle	2
Patrol 4x4 Pickup Truck	1
Prisoner Transport Van	1
Patrol Surveillance Van	1
Bomb Squad Response Vehicle	1
Bomb Squad Trailer	1
Mobile Command Post	1
Radar/Sign Board Trailer	3
Administrative Sedan	26
Graffiti Eradication Van	1
Street Crimes Task Force Vehicles	2
Utility Trailer	1
TOTAL	75

Proportionate Share Analysis	
Residential Development	44%
Nonresidential Development	56%
Current Demand Units	
Residential (population)	65,338
Nonresidential (vehicle trips)	226,678
Current LOS	
Vehicles per Person	0.0005
Vehicles per Nonres Vehicle Trip	0.0002

Police Vehicles – Cost Analysis

The City's Police Department estimates the current fleet of vehicles to have a total value of $2,351,300, an average of $31,351 per unit ($2,351,300/75 units = $31,351). This results in a cost factor of $15.78 per person and $5.82 per nonresidential vehicle trip. For residential development, this is calculated by multiplying the current residential LOS of 0.0005 vehicles per person by $31,351 per unit (0.0005 x $31,351 = $15.78). This calculation is repeated for nonresidential development resulting in a cost per trip for police vehicles of $5.82.

Figure 45: Police Vehicles Cost Standards

Vehicle	*# of Units*	*Cost/ Unit**	*TOTAL*
Patrol Sedan	27	$35,800	$966,600
Patrol Motorcycle	4	$15,200	$60,800
Patrol Motorcycle Trainer	3	$10,800	$32,400
Patrol Utility Vehicle	2	$36,600	$73,200
Patrol 4x4 Pickup Truck	1	$26,900	$26,900
Prisoner Transport Van	1	$41,600	$41,600
Patrol Surveillance Van	1	$152,600	$152,600
Bomb Squad Response Vehicle	1	$165,600	$165,600
Bomb Squad Trailer	1	$80,000	$80,000
Mobile Command Post	1	$56,800	$56,800
Radar/Sign Board Trailer	3	$24,000	$72,000
Administrative Sedan	26	$20,000	$520,000
Graffiti Eradication Van	1	$30,100	$30,100
Street Crimes Task Force Vehicles	2	$34,600	$69,200
Utility Trailer	1	$3,500	$3,500
TOTAL	75		$2,351,300

Average Cost per Vehicle =>	$31,351
Current LOS	
Vehicles per Person	0.0005
Vehicles per Nonres Vehicle Trip	0.0002
Cost Factor	
Average Cost per Vehicle	$31,351
Cost	
Per Person	$15.78
Per Nonre Vehicle Trip	$5.82

* City of Flagstaff, Police Department. Includes all pieces of equipment to place the vehicle in service.

ANIMAL CONTROL VEHICLES

The incremental expansion methodology is used to calculate the animal control vehicles component of the Police Development Fee. The first step of the analysis determines the current LOS being provided to existing development. The second step involves determining the cost per person and nonresidential vehicle trip to provide this LOS.

Animal Control Vehicles – LOS Analysis

The City currently has one animal control vehicle. The demand for animal control vehicles is created by residential development only (100%). Thus this component of the Police Development Fee is assessed on residential development only. The current animal control vehicle LOS for residential development is calculated as follows: ((1 vehicle x 100%)/65,338 persons) = 0.0002 vehicles per person.

Figure 46: Animal Vehicles LOS Standards

Vehicle	*# of Units*
Animal Control 4x4 Pickup Truck	1
TOTAL	1

Proportionate Share Analysis	
Residential Development	100%
Nonresidential Development	0%
Current Demand Units	
Residential (population)	65,338
Nonresidential (vehicle trips)	226,678
Current LOS	
Vehicles per Person	0.00002
Vehicles per Nonres Vehicle Trip	0.00000

Animal Control Vehicles – Cost Analysis

The City's Police Department estimates the cost to purchase a comparable animal control vehicle to be $48,640. This results in a cost factor of $0.75 per person. This is calculated by multiplying the current residential LOS of 0.0002 vehicles per person by $48,840 (0.0002 x $48,840 = $0.75).

Figure 47: Animal Control Vehicles Cost Standards

Vehicle	*# of Units*	*Cost/ Unit**	*TOTAL*
Animal Control 4x4 Pickup Truck	1	$48,840	$48,840
TOTAL	1		$48,840

Average Cost per Vehicle =>	$48,840
Current LOS	
Vehicles per Person	0.00002
Vehicles per Nonres Vehicle Trip	0.00000
Cost Factor	
Average Cost per Vehicle	$48,840
Cost	
Per Person	$0.75
Per Nonre Vehicle Trip	$0.00

* City of Flagstaff, Police Department.

POLICE COMMUNICATIONS EQUIPMENT

The incremental expansion methodology is used to calculate the communication equipment component of the Police Development Fee. The first step of the analysis determines the current LOS being provided to existing development. The second step involves determining the cost per person and nonresidential vehicle trip to provide this LOS.

Police Communications Equipment – LOS Analysis

The City currently has 273.5 pieces of communications equipment used for the Police Department. Because some pieces of communications equipment are used to take calls for other public safety agencies, only the portion of the equipment used to dispatch calls for the Flagstaff Police Department are used in the development fee calculations. The percentages are based on calls for service during calendar year 2005.

Based on the proportionate share analysis, residential development creates 44% of the demand for police communications equipment, with nonresidential development accounting for 56% of the demand. The current police communications equipment LOS for residential development is calculated as follows: ((273.5 pieces x 44%)/65,338 persons) = 0.0018 pieces per person. This calculation is repeated for nonresidential development resulting in a LOS of 0.0007 pieces per nonresidential vehicle trip.

Figure 48: Police Communications Equipment LOS Standards

Equipment	*# of Units*	*FPD Share**	*Units Attrib. to FPD*
Portable Patrol Radios	118	100%	118
Portable Tactical Radios	14	100%	14
Portable Civilian Radios	21	100%	21
Mobile Phones	34	100%	34
Pager	67	100%	67
Xybix Dispatch Consoles	10	59.2%	5.9
Flat Panel Touch Screens	11	59.2%	6.5
Intergraph Certified PC's	11	59.2%	6.5
CAD Hardware	1	59.2%	0.6
TOTAL	287		273.5

Proportionate Share Analysis	
Residential Development	44%
Nonresidential Development	56%
Current Demand Units	
Residential (population)	65,338
Nonresidential (vehicle trips)	226,678
Current LOS	
Equipment per Person	0.0018
Equipment per Nonres Vehicle Trip	0.0007

* Based on calls for service to Flagstaff Police Department versus calls taken for other agencies.

Police Communications Equipment – Cost Analysis

The City's Police Department estimates the current inventory of communications equipment to have a total value of $438,601, an average of $1,603 per unit ($438,601/273.5 units = $1,603). This results in a cost factor of $2.94 per person and $1.09 per nonresidential vehicle trip. For residential development, this is calculated by multiplying the current residential LOS of 0.0018 pieces of equipment per person by $1,603 per unit (0.0018 x $1,603 = $2.94). This calculation is repeated for nonresidential development resulting in a cost per trip for police communications equipment of $1.09.

Figure 49: Police Communications Equipment Cost Standards

Equipment	*Units Attrib. to FPD*	*Cost/ Unit**	*TOTAL*
Portable Patrol Radios	118	$2,690	$317,420
Portable Tactical Radios	14	$400	$5,600
Portable Civilian Radios	21	$845	$17,745
Mobile Phones	34	$200	$6,800
Pager	67	$35	$2,345
Xybix Dispatch Consoles	5.9	$10,500	$62,175
Flat Panel Touch Screens	6.5	$1,500	$9,770
Intergraph Certified PC's	6.5	$1,300	$8,468
CAD Hardware	0.6	$13,980	$8,278
TOTAL	273.5		$438,601

Average Cost per Piece of Equipment =>	$1,603
Current LOS	
Equipment per Person	0.0018
Equipment per Nonres Vehicle Trip	0.0007
Cost Factor	
Average Cost per Piece of Equipment	$1,603
Cost	
Per Person	$2.94
Per Nonre Vehicle Trip	$1.09

* City of Flagstaff, Police Department.

DEVELOPMENT FEE STUDY

The cost of preparing the Police Development Fee is also included in the fee calculations. The City should update its development fees every three years to ensure the methodologies, assumptions, and cost factors used in the calculations are still valid and accurate. As we do with many of our Arizona development fee clients, TischlerBise has included the cost of preparing the current Police Development Fee in the fee calculations in order to create a source of funding to conduct this regular update. This cost ($8,000) is allocated over the projected increase in population and nonresidential vehicles trips over the next three years using the residential and nonresidential proportionate share factors. This results in a development fee study cost per demand unit of $0.82 per person and $0.22 per trip.

POLICE DEVELOPMENT FEE

Figure 50 provides a summary of the cost factors used to calculate development fees for police. Police Development Fees are calculated for both residential and nonresidential land uses. Developers may be eligible for site-specific credits or reimbursements only if they provide system improvements that have been included in the Police Development Fee calculation schedule. Specific policies and procedures related to site-specific credits for system improvements are addressed in the ordinance that establishes the City's fees. Project improvements normally required as part of the development approval process are not eligible for credits against development fees.

As shown in the bottom of Figure 50, the capital costs per demand unit are $90.87 per person and $33.18 per trip.

Figure 50: Police Development Fee Level of Service Standard Summary

Persons Per Household		
Single Family Detached	2.87	
Multi-Family	2.28	
All Other Housing	2.76	
Average Weekday Vehicle Trips per Square Foot/Hotel Room		
Commercial / Shopping Center 25,000 SF or less		0.11032
Commercial / Shopping Center 25,001-50,000 SF		0.08656
Commercial/Shopping Center 50,001-100,000 SF		0.06791
Commercial/Shopping Center 100,001-200,000 SF		0.05328
Commercial/Shopping Center over 200,000 SF		0.04180
Office 10,000 SF or less		0.02266
Office 10,001-25,000 SF		0.01835
Office 25,001-50,000 SF		0.01565
Office 50,001-100,000 SF		0.01334
Office 100,000 SF		0.01137
Business Park		0.01276
Light Industrial		0.00697
Warehousing		0.00496
Manufacturing		0.00382
Hotel (per room)		5.63
Trip Adjustment Factors		
Com / Shop Ctr 25,000 SF or less		28%
Com / Shop Ctr 25,001 - 50,000 SF		31%
Com / Shop Ctr 50,001 - 100,000 SF		33%
Com / Shop Ctr 100,001 - 200,000 SF		36%
Com / Shop Ctr over 200,000 SF		39%
All Other Nonresidential		50%
Cost Summary	Per Person	Per Trip
Police Facilities	$70.59	$26.06
Police Vehicles	$15.78	$5.82
Animal Control Vehicles	$0.75	$0.00
Police Communications Equipment	$2.94	$1.09
Development Fee Study	$0.82	$0.22
Total Capital Cost	**$90.87**	**$33.18**

Figure 51 lists the Police Development Fees. For residential land uses, persons per household (2.87 for a single family detached unit) are multiplied by the capital cost per person ($90.87), for a development fee per single family detached unit of $261. For nonresidential land uses, such as a commercial shopping center less than 25,000 square feet, the number of trips per square foot (.11032) is multiplied by the corresponding trip adjustment factor (28% or .28) and then multiplied by the capital cost per nonresidential vehicle trip ($33.18), for a fee of $1.03 per square foot.

Figure 51: Police Development Fee Schedule

Development Fees

Residential	Per Housing Unit
Single Family Detached	$261
Multi-Family	$207
All Other Housing	$251
Nonresidential	Per Square Foot/Hotel Room
Commercial / Shopping Center 25,000 SF or less	$1.03
Commercial / Shopping Center 25,001-50,000 SF	$0.89
Commercial/Shopping Center 50,001-100,000 SF	$0.74
Commercial/Shopping Center 100,001-200,000 SF	$0.64
Commercial/Shopping Center over 200,000 SF	$0.54
Office 10,000 SF or less	$0.38
Office 10,001-25,000 SF	$0.30
Office 25,001-50,000 SF	$0.26
Office 50,001-100,000 SF	$0.22
Office 100,000 SF	$0.19
Business Park	$0.21
Light Industrial	$0.12
Warehousing	$0.08
Manufacturing	$0.06
Hotel (per room)	$93

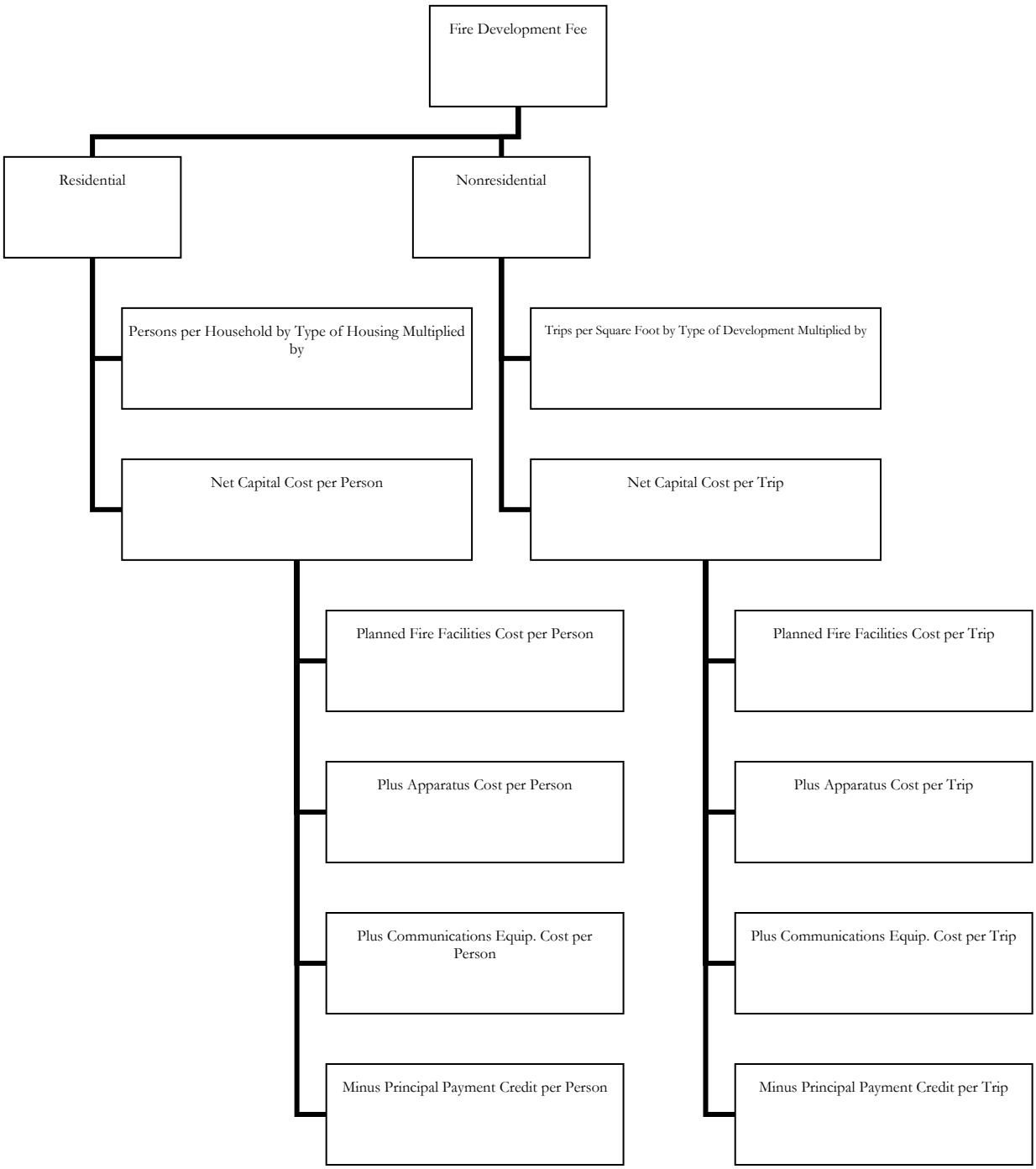
Fire

METHODOLOGY

The plan-based methodology is used for calculating the fire facilities components for the Fire Development Fee. The apparatus and communications equipment components are calculated using the incremental expansion methodology. The City is funding the planned fire stations using General Obligation bonds. In order to avoid potential double payment for these facilities via the development fees and future property tax payments, a principal payment credit has been included in the development fee calculation.

Similar to the Police Development Fee, capital costs are calculated per person for residential development while capital costs for nonresidential development are calculated on a per nonresidential vehicle trip basis.

Figure 52: Fire Development Fee Methodology



PROPORTIONATE SHARE FACTORS

Calls for service data provided by the Fire Department are used to determine the relative demand for service from residential and nonresidential development. The proportionate share factor for residential development is 56%, with nonresidential development accounting for 44% of the demand for fire infrastructure and assets. Road related calls are omitted because they cannot be allocated to residential or nonresidential development in that a person could be on their way home, or to work, or passing through the City. This should not be interpreted as implying that road-related calls for service have no impact on the Fire Department.

Figure 53: Police Proportionate Share Factors

	Calls	*%*
Residential	3,111	56%
Nonresidential	2,439	44%
TOTAL	5,550	100%

Source: City of Flagstaff Fire Department. Road related calls for service have been omitted from this analysis.

FIRE FACILITIES

The City is currently engaged in a multi-year plan to relocate and expand its fire stations. The plan-based methodology is used to calculate the LOS that will be provided to existing and new development when this plan in complete. The first step of the analysis determines the planned LOS to be provided. The second step involves determining the cost per person and nonresidential vehicle trip to provide this LOS.

Fire Facilities – Planned LOS Analysis

The City plans to have 63,675 square feet of fire facilities. Based on the proportionate share factors, residential development creates 56% of the demand for fire facilities, with nonresidential development accounting for 44% of the demand. Upon completion, the planned stations will provide sufficient capacity through FY2020 which is when the next new fire station is planned to be built. Thus the number of persons and vehicle trips in FY2020 are used in calculating the planned LOS.

The planned LOS for fire facilities for residential development is calculated as follows: ((63,375 square feet x .56)/88,159 persons in FY2020) = 0.40 square feet per person. This calculation is repeated for nonresidential development resulting in a LOS of 0.09 square feet per trip.

Figure 54: Planned Fire Facilities LOS Standards

Facility	*Square Feet*
Planned Station 1	9,200
Planned Station 2	15,342
Planned Station 3	11,070
Current Station 4	5,600
Planned Station 5	9,200
Current Station 6	9,000
Current Fire Administration - City Hall	2,263
Current Fire Mechanic Space	2,000
TOTAL	63,675

Proportionate Share Analysis	
Residential Development	56%
Nonresidential Development	44%
Demand Units FY2020	
Residential (population)	88,159
Nonresidential (vehicle trips)	304,501
Planned LOS	
Square Feet per Person	0.40
Square Feet per Nonres Vehicle Trip	0.09

Fire Facilities – Cost Analysis

When the planned stations are complete, the City will have spent approximately $23,214,080, or $365 per square foot ($23,214,080/63,675 square feet = $365). Using residential development as an example, the cost per person is calculated by multiplying the planned residential LOS of 0.40 square feet per person by $365 per square foot (0.40 x $365 = $147.60). This is repeated using the nonresidential development data resulting in a cost per trip of $33.50.

Figure 55: Cost Standards for Planned Fire Facilities LOS

Facility	*Square Feet*	*Cost/ SF**	*Total*
Planned Station 1	9,200	$390	$3,588,000
Planned Station 2	15,342	$390	$5,983,380
Planned Station 3	11,070	$390	$4,317,300
Current Station 4	5,600	$232	$1,299,200
Planned Station 5	9,200	$390	$3,588,000
Current Station 6	9,000	$337	$3,033,000
Current Fire Administration - City Hall	2,263	$400	$905,200
Current Fire Mechanic Space	2,000	$250	$500,000
TOTAL	63,675		$23,214,080

Average Cost per Square Foot=>	$365
Planned LOS	
Square Feet per Person	0.40
Square Feet per Nonres Vehicle Trip	0.09
Cost Factor	
Average Cost per Square Foot*	$365
Cost	
Per Person	$147.60
Per Nonre Vehicle Trip	$33.50

* Planned Facilities, CIP amount divided by square feet of planned stations.
Current Facilities - planned $390 per square foot adjusted for inflation
back to original construction date of those facilities.

FIRE APPARATUS

The incremental expansion methodology is used to calculate the apparatus component of the Fire Development Fee. The first step of the analysis determines the current LOS being provided to existing residential and nonresidential development. The second step involves determining the cost per person and trip to provide this LOS.

Fire Apparatus – LOS Analysis

The City currently has 32 pieces of apparatus. Based on the proportionate share factors, residential development creates 56% of the demand for fire apparatus, with nonresidential development accounting for 44% of the demand. The current LOS for apparatus for residential development is calculated as follows: ((32 vehicles x 56%)/65,338 persons) = 0.0003 vehicles per person. This calculation is repeated for nonresidential development resulting in a LOS of 0.0001 vehicles per trip.

Figure 56: Fire Apparatus LOS Standards

Apparatus	*# of Units*
1 Ton 4x4 Truck	2
Aerial Truck	2
4x4 SUV	4
Engine Type 6	2
3/4 Ton 4x4 Truck	1
Engine Type 1	7
Sedan	3
Quint Type 1	1
1 Ton 4x4 Flatbed Truck	1
Engine Type 3	2
Water Tender Type 2	2
HAZMAT Truck	1
HAZMAT Trailer	1
Fuel Management Truck	2
Heavy Rescue	1
TOTAL	32

Proportionate Share Analysis	
Residential Development	56%
Nonresidential Development	44%
Current Demand Units	
Residential (population)	65,338
Nonresidential (vehicle trips)	226,678
Current LOS	
Apparatus per Person	0.0003
Apparatus per Nonres Vehicle Trip	0.0001

Fire Apparatus – Cost Analysis

The City's Fire Department estimates the current fleet of apparatus to have a total value of $8,631,000, an average of $269,719 per vehicle ($8,631,000/32 units = $269,719). For residential development, the cost per person is calculated by multiplying the current residential LOS of 0.0003 vehicles per person by $269,719 per unit (0.0003 x $269,719 = $74.05). This calculation is repeated for nonresidential development resulting in a cost per trip for fire apparatus of $16.73.

Figure 57: Fire Apparatus Cost Standards

Apparatus	*# of Units*	*Cost/ Unit**	*Total*
1 Ton 4x4 Truck	2	$25,000	$50,000
Aerial Truck	2	$820,000	$1,640,000
4x4 SUV	4	$52,000	$208,000
Engine Type 6	2	$70,000	$140,000
3/4 Ton 4x4 Truck	1	$23,000	$23,000
Engine Type 1	7	$495,000	$3,465,000
Sedan	3	$20,000	$60,000
Quint Type 1	1	$850,000	$850,000
1 Ton 4x4 Flatbed Truck	1	$30,000	$30,000
Engine Type 3	2	$320,000	$640,000
Water Tender Type 2	2	$270,000	$540,000
HAZMAT Truck	1	$320,000	$320,000
HAZMAT Trailer	1	$10,000	$10,000
Fuel Management Truck	2	$30,000	$60,000
Heavy Rescue	1	$595,000	$595,000
TOTAL	32		$8,631,000

Average Cost per Apparatus=>	$269,719
Current LOS	
Apparatus per Person	0.0003
Apparatus per Nonres Vehicle Trip	0.0001
Cost Factor	
Average Cost per Piece of Apparatus*	$269,719
Cost	
Per Person	$74.05
Per Nonre Vehicle Trip	$16.73

* City of Flagstaff Fire Department. Includes all additional pieces to place the apparatus in service.

FIRE COMMUNICATIONS EQUIPMENT

The incremental expansion methodology is used to calculate the communication equipment component of the Fire Development Fee. The first step of the analysis determines the current LOS being provided to existing residential and nonresidential development. The second step involves determining the cost per person and trip to provide this LOS.

Fire Communications Equipment – LOS Analysis

The City currently has 69.3 pieces of communications equipment used for the Fire Department. Because some pieces of communications equipment are used to take calls for other public safety agencies, only the portion of the equipment used to dispatch calls for the Flagstaff Fire Department are used in the development fee calculations. The percentages are based on calls for service during calendar year 2005.

Based on the proportionate share analysis, residential development creates 56% of the demand for fire communications equipment, with nonresidential development accounting for 44% of the demand. The current fire communications equipment LOS for residential development is calculated as follows: ((69.3 pieces x 56%)/65,338 persons) = 0.0006 pieces per person. This calculation is repeated for nonresidential development resulting in a LOS of 0.0001 pieces per nonresidential vehicle trip.

Figure 58: Fire Communications Equipment LOS Standards

Equipment	*# of Units*	*FFD Share**	*Units Attrib. to FFD*
Hand Held Radios	60	100.0%	60.0
Satellite Phone	1	100.0%	1.0
Laptops	2	100.0%	2.0
Communications Cache	3	100.0%	3.0
Xybix Dispatch Consoles	10	10.1%	1.0
Flat Panel Touch Screens	11	10.1%	1.1
Intergraph Certified PC's	11	10.1%	1.1
CAD Hardware	1	10.1%	0.1
TOTAL	99		69.3

Proportionate Share Analysis	
Residential Development	56%
Nonresidential Development	44%
Current Demand Units	
Residential (population)	65,338
Nonresidential (vehicle trips)	226,678
Current LOS	
Equipment per Person	0.0006
Equipment per Nonres Vehicle Trip	0.0001

* Based on calls for service to Flagstaff Fire Department versus calls taken for other agencies.

Fire Communications Equipment – Cost Analysis

The City's Fire Department estimates the current inventory of communications equipment to have a total value of $111,563, an average of $1,609 per unit ($111,563/69.3 units = $1,609). This results

in a cost factor of $0.96 per person and $0.22 per nonresidential vehicle trip. For residential development, this is calculated by multiplying the current residential LOS of 0.0006 pieces of equipment per person by $1,609 per unit (0.0006 x $1,609 = $0.96). This calculation is repeated for nonresidential development resulting in a cost per trip for police communications equipment of $0.22.

Figure 59: Fire Communications Equipment Cost Standards

Equipment	*Units Attrib. to FFD*	*Cost/ Unit**	*Total*
Hand Held Radios	60.0	$800	$48,000
Satellite Phone	1.0	$1,000	$1,000
Laptops	2.0	$1,200	$2,400
Communications Cache	3.0	$15,000	$45,000
Xybix Dispatch Consoles	1.0	$10,500	$10,630
Flat Panel Touch Screens	1.1	$1,500	$1,670
Intergraph Certified PC's	1.1	$1,300	$1,448
CAD Hardware	0.1	$13,980	$1,415
TOTAL	69.3		$111,563

Average Cost per Equipment=>	$1,609
Current LOS	
Equipment per Person	0.0006
Equipment per Nonres Vehicle Trip	0.0001
Cost Factor	
Average Cost per Piece of Equipment*	$1,609
Cost	
Per Person	$0.96
Per Nonre Vehicle Trip	$0.22

* City of Flagstaff Fire Department.

PRINCIPAL PAYMENT CREDITS

Flagstaff will be making payments on General Obligation (G.O.) bonds that will finance the planned Fire facilities. To avoid potential double payment for these facilities, a principal payment credit is calculated and deducted from the development fee calculation. Because interest costs have not been added to the development fees, a credit is not necessary for future interest payments. Due to the time value of future payments, a net present value adjustment is used in the calculation of the credit. The credit is calculated to be $69.03 per person and $15.47 per nonresidential trip on a net present value basis.

Figure 60: Principal Payment Credits

Fiscal Year	Principal Payments	Residential Share 56%	Nonresidential Share 44%	Projected Population	Projected Nonres. Trips	Credit per Person	Credit per Nonres. Trip
2007	$1,117,714	$626,524	$491,190	65,338	226,678	$9.59	$2.17
2008	$539,429	$302,372	$237,057	66,738	238,505	$4.53	$0.99
2009	$566,857	$317,746	$249,111	68,171	242,918	$4.66	$1.03
2010	$594,286	$333,121	$261,164	69,636	247,433	$4.78	$1.06
2011	$619,429	$347,215	$272,214	71,135	252,052	$4.88	$1.08
2012	$644,571	$361,308	$283,263	72,669	256,776	$4.97	$1.10
2013	$672,000	$376,683	$295,317	74,237	261,610	$5.07	$1.13
2014	$704,000	$394,621	$309,379	75,842	266,554	$5.20	$1.16
2015	$740,571	$415,120	$325,451	77,484	271,612	$5.36	$1.20
2016	$781,714	$438,183	$343,532	79,164	276,787	$5.54	$1.24
2017	$822,857	$461,245	$361,612	80,882	282,081	$5.70	$1.28
2018	$864,000	$484,307	$379,693	82,640	287,496	$5.86	$1.32
2019	$905,143	$507,369	$397,774	84,438	293,036	$6.01	$1.36
2020	$946,286	$530,432	$415,854	86,278	298,703	$6.15	$1.39
2021	$987,429	$553,494	$433,935	88,159	304,501	$6.28	$1.43
2022	$1,028,571	$576,556	$452,015	90,085	310,432	$6.40	$1.46
2023	$1,072,000	$600,899	$471,101	92,054	316,500	$6.53	$1.49
2024	$793,143	$444,589	$348,554	94,069	322,707	$4.73	$1.08
TOTAL	$14,400,000	$8,071,784	$6,328,216			$102.24	$22.96
					Interest Rate	4.50%	4.50%
					Net Present Value	$69.03	$15.47

DEVELOPMENT FEE STUDY

The cost of preparing the Fire Development Fee is also included in the fee calculations. The City should update its development fees every three years to ensure the methodologies, assumptions, and cost factors used in the calculations are still valid and accurate. As we do with many of our Arizona development fee clients, TischlerBise has included the cost of preparing the current Fire Development Fee in the fee calculations in order to create a source of funding to conduct this regular update. This cost ($8,500) is allocated over the projected increase in population and nonresidential vehicle trips over the next three years using the proportionate share factors. This results in a development fee study cost per demand unit of $1.11 per person and $0.19 per nonresidential vehicle trip.

FIRE DEVELOPMENT FEE

Figure 61 provides a summary of the cost factors used to calculate the Fire Development Fees. Fire Development Fees are calculated for both residential and nonresidential land uses. Developers may be eligible for site-specific credits or reimbursements only if they provide system improvements that have been included in the Fire Development Fee calculation schedule. Specific policies and procedures related to site-specific credits for system improvements are addressed in the ordinance that establishes the City's fees. Project improvements normally required as part of the development approval process are not eligible for credits against development fees.

As shown in the bottom of Figure 61, the capital costs per demand unit are $154.68 per person and $35.18 per nonresidential vehicle trip.

Figure 61: Fire Development Fee Level of Service Standard Summary

Persons Per Household		
Single Family Detached	2.87	
Multi-Family	2.28	
All Other Housing	2.76	
Average Weekday Vehicle Trips per Square Foot/Hotel Room		
Com / Shop Ctr 25,000 SF or less		0.11032
Com / Shop Ctr 25,001 - 50,000 SF		0.08656
Com / Shop Ctr 50,001 - 100,000 SF		0.06791
Com / Shop Ctr 100,001 - 200,000 SF		0.05328
Com / Shop Ctr over 200,000 SF		0.04180
Office/Inst 10,000 SF or less		0.02266
Office/Inst 10,001 - 25,000 SF		0.01835
Office/Inst. 25,001-50,000 SF		0.01565
Office/Inst 50,001 - 100,000 SF		0.01334
Office/Inst over 100,000 SF		0.01137
Business Park		0.01276
Light Industrial		0.00697
Warehousing		0.00496
Manufacturing		0.00382
Hotel (per room)		5.63
Trip Adjustment Factors		
Com / Shop Ctr 25,000 SF or less		28%
Com / Shop Ctr 25,001 - 50,000 SF		31%
Com / Shop Ctr 50,001 - 100,000 SF		33%
Com / Shop Ctr 100,001 - 200,000 SF		36%
Com / Shop Ctr over 200,000 SF		39%
All Other Nonresidential		50%
Cost Summary	Per Person	Per Trip
Plan Based Facilities	$147.60	$33.50
Vehicles	$74.05	$16.73
Communications Equipment	$0.96	$0.22
Less Credit for Principal Payments	-$69.03	-$15.47
Development Fee Study	$1.11	$0.19
Total Capital Cost	**$154.68**	**$35.18**

Figure 62 lists the Fire Development Fees. For residential land uses, persons per household (2.87 for a single family detached unit) are multiplied by the capital cost per person ($154.68), for a development fee per single family detached unit of $444. For nonresidential land uses, such as a commercial shopping center less than 25,000 square feet, the number of nonresidential vehicle trips per square foot (.11032) is multiplied by corresponding trip adjustment factor (.28) then by the capital cost per trip ($35.18), for a fee of $1.09 per square foot.

Figure 62: Fire Development Fee Schedule

Development Fees

Residential	Per Housing Unit
Single Family Detached	$444
Multi-Family	$352
All Other Housing	$428
Nonresidential	Per Square Foot/Hotel Room
Com / Shop Ctr 25,000 SF or less	$1.09
Com / Shop Ctr 25,001 - 50,000 SF	$0.94
Com / Shop Ctr 50,001-100,000 SF	$0.79
Com / Shop Ctr 100,001-200,000 SF	$0.67
Com / Shop Ctr over 200,000 SF	$0.57
Office/Inst 10,000 SF or less	$0.40
Office/Inst 10,001 - 25,000 SF	$0.32
Office/Inst. 25,001-50,000 SF	$0.28
Office/Inst 50,001 - 100,000 SF	$0.23
Office/Inst over 100,000 SF	$0.20
Business Park	$0.22
Light Industrial	$0.12
Warehousing	$0.09
Manufacturing	$0.07
Hotel (per room)	$99

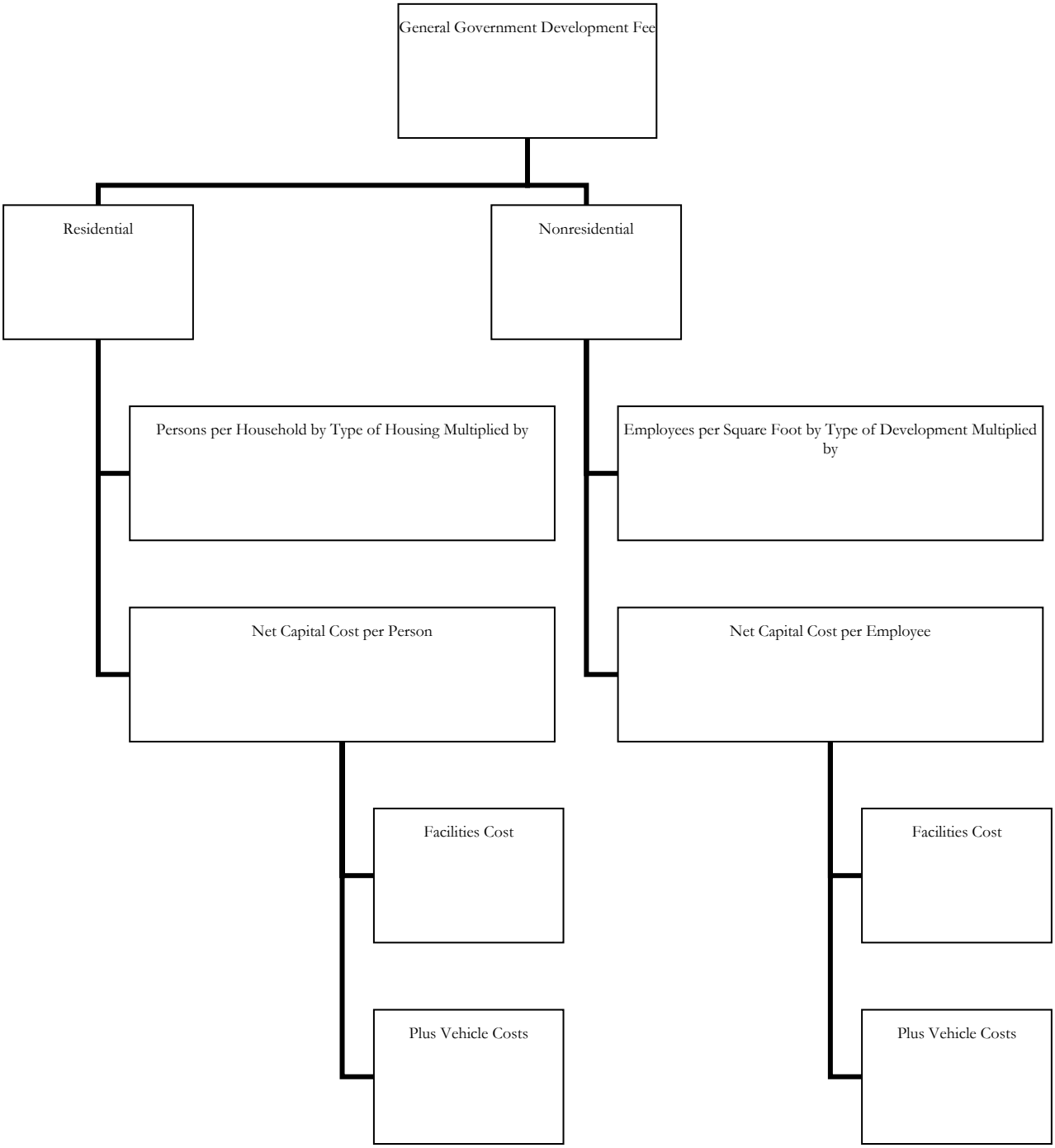
General Government

METHODOLOGY

The General Government Development Fee is calculated for both residential and nonresidential development. Residential development fees are calculated on a per capita basis and then converted to an appropriate amount by type of housing based on household size. Employee densities (jobs per square foot) are used to calculate nonresidential development fees.

The incremental expansion methodology is used for calculating the LOS standards for facilities and vehicles.

Figure 63: General Government Development Fee Methodology



GENERAL GOVERNMENT FACILITIES

The incremental expansion methodology is used to calculate the facilities component of the General Government Development Fee. The first step of calculating the incremental expansion methodology measures the current LOS being provided to existing residential and nonresidential development. The second step involves determining the cost per person and job to provide this LOS.

General Government Facilities – LOS Analysis

The City currently has 40,651 square feet of facilities used for general government activities. The residential proportionate share is calculated as follows: 65,338 persons/102,060 persons and jobs = .64 or 64%. Nonresidential development accounts for the remaining 36%. The current LOS for general government facilities for residential development is calculated as follows: ((40,651 square feet x 64%)/65,338 persons) = 0.40 square feet per person. This calculation is repeated for nonresidential development resulting in a current LOS of 0.40 square feet per job.

Figure 64: General Government Facilities LOS Standards

Facility	*Square Feet*
City Hall	
Administration	3,967
Human Resources	2,782
Legal	2,511
Management Services	11,004
Council	927
City Court	12,300
City Warehouse	5,600
Hunter House	1,560
TOTAL	40,651
Current Demand Units	
Residential (population)	65,338
Nonresidential (jobs)	36,722
Proportionate Share Analysis	
Residential Development	64%
Nonresidential Development	36%
Current LOS	
Square Feet per Person	0.40
Square Feet per Job	0.40

General Government Facilities – Cost Analysis

The City's current inventory of general government facilities has a total current value of $11,784,545; an average of $290 per square foot ($11,784,545/40,651 square feet). The cost per person is calculated by multiplying the current LOS of 0.40 square feet per person by $290 per square foot

which results in a cost per person of $115.47 (0.40 x $290 = $115.47). This calculation is repeated using the nonresidential data, resulting in a cost per job of $115.47

Figure 65: General Government Facilities Cost Standards

Facility	*Square Feet*	*Cost/ SF**	*TOTAL*
City Hall			
Administration	3,967	$295	$1,170,265
Human Resources	2,782	$295	$820,690
Legal	2,511	$295	$740,745
Management Services	11,004	$295	$3,246,180
Council	927	$295	$273,465
City Court	12,300	$310	$3,813,000
City Warehouse	5,600	$225	$1,260,000
Hunter House	1,560	$295	$460,200
TOTAL	40,651		$11,784,545

Average Cost per Square Foot =>	$290
Current LOS	
Square Feet per Person	0.40
Square Feet per Nonres Vehicle Trip	0.40
Cost Factor	
Cost per Square Foot*	$290
Cost	
Per Person	$115.47
Per Job	$115.47

* City of Flagstaff, Community Improvements Division.

GENERAL GOVERNMENT VEHICLES

The incremental expansion methodology is used to calculate the vehicles component of the General Government Development Fee. The first step of the analysis determines the current LOS being provided to existing development. The second step involves determining the cost per person and job to provide this LOS.

General Government Vehicles – LOS Analysis

The City's current fleet of general government vehicles totals 33 units. The residential proportionate share is calculated as follows: 65,338 persons/102,060 persons and jobs = .64 or 64%. Nonresidential development accounts for the remaining 36%. The current LOS for general government vehicles for residential development is calculated as follows: ((33 vehicles x 64%)/65,338 persons) = 0.0003 vehicles per person. This calculation is repeated for nonresidential development resulting in a current LOS of 0.0003 vehicles per job.

Figure 66: General Government Vehicles LOS Standards

Division/Vehicle	*# of Units**
Capital Improvement	
Compact Pickups	2
Full size Sedan	1
City Council & Mayor	
Midsize Sedan	1
Community Improvements	
1/2 Ton Pickup	1
Community Services	
Compact Pickups	11
1/2 Ton Pickups	9
3/4 Ton Pickups	3
Courts	
Full-size Sedans	3
Warehouse	
Mini Van	1
Forklift	1
TOTAL	33
Current Demand Units	
Residential (population)	65,338
Nonresidential (jobs)	36,722
Proportionate Share Analysis	
Residential Development	64%
Nonresidential Development	36%
Current LOS	
Vehicles per Person	0.0003
Vehicles per Job	0.0003

General Government Vehicles – Cost Analysis

The City's Fleet Management Division estimates the current fleet of vehicles to have a total value of $681,000, an average of $20,661 per unit ($681,000/33 units = $20,661). This results in a cost factor of $6.68 per person and job. For residential development, this is calculated by multiplying the current residential LOS of 0.0003 vehicles per person by $20,661 per unit (0.0003 x $20,661 = $6.68). This calculation is repeated for nonresidential development resulting in a cost per job of $6.68 for general government vehicles.

Figure 67: General Government Vehicles Cost Standards

Division/Vehicle	*# of Units**	*Cost/ Unit**	*TOTAL*
Capital Improvement			
Compact Pickups	2	$19,000	$38,000
Full size Sedan	1	$22,200	$22,200
City Council & Mayor			
Midsize Sedan	1	$16,000	$16,000
Community Improvements			
1/2 Ton Pickup	1	$20,000	$20,000
Community Services			
Compact Pickups	11	$19,000	$209,000
1/2 Ton Pickups	9	$20,000	$180,000
3/4 Ton Pickups	3	$26,000	$78,000
Courts			
Full-size Sedans	3	$22,200	$66,600
Warehouse			
Mini Van	1	$22,000	$22,000
Forklift	1	$30,000	$30,000
TOTAL	33		$681,800
		Average Cost per Vehicle =>	$20,661
Current LOS			
Vehicles per Person			0.0003
Vehicles per Nonres Vehicle Trip			0.0003
Cost Factor			
Cost per Vehicle*			$20,660.61
Cost			
Per Person			$6.68
Per Job			$6.68

* City of Flagstaff, Fleet Management Division.

DEVELOPMENT FEE STUDY

The City should update its development fees every three years to ensure the methodologies, assumptions, and cost factors used in the calculations are still valid and accurate. As we do with many of our Arizona development fee clients, TischlerBise has included the cost of preparing the current General Government Development Fee in the fee calculations in order to create a source of funding to conduct this regular update. This cost ($7,800) is allocated to the projected increase in population and jobs over the next three years. A three year period is used since this is the period of time at which the development fee methodology should be revisited in a growing community. This results in a development fee study cost per demand unit of $1.04 per person and job ($7,800/7,506 people and jobs).

GENERAL GOVERNMENT DEVELOPMENT FEE

Figure 68 provides a summary of the cost factors used to calculate the General Government Development Fees. These fees are calculated for both residential and nonresidential land uses. Developers may be eligible for site-specific credits or reimbursements only if they provide system improvements that have been included in the General Government Development Fee calculation schedule. Specific policies and procedures related to site-specific credits for system improvements are addressed in the ordinance that establishes the City's fees. Project improvements normally required as part of the development approval process are not eligible for credits against development fees.

As shown in the bottom of Figure 68, the capital costs per demand unit are $123.19 per person and job.

Figure 68: General Government Development Fee Cost Summary

Persons Per Household		
Single Family Detached	2.87	
Multi-Family	2.28	
All Other Housing	2.76	
Employees per Square Foot/Hotel Room		
Commercial / Shopping Center 25,000 SF or less		0.00333
Commercial / Shopping Center 25,001-50,000 SF		0.00286
Commercial/Shopping Center 50,001-100,000 SF		0.00250
Commercial/Shopping Center 100,001-200,000 SF		0.00222
Commercial/Shopping Center over 200,000 SF		0.00200
Office 10,000 SF or less		0.00448
Office 10,001-25,000 SF		0.00415
Office 25,001-50,000 SF		0.00391
Office 50,001-100,000 SF		0.00369
Office 100,000 SF		0.00335
Business Park		0.00316
Light Industrial		0.00231
Warehousing		0.00128
Manufacturing		0.00179
Hotel (per room)		0.43950
Cost Summary	Per Person	Per Job
Facilities	$115.47	$115.47
Vehicles/Equipment	$6.68	$6.68
Development Fee Study	$1.04	$1.04
Total Capital Cost	**$123.19**	**$123.19**

Figure 69 contains a schedule of the General Government Development Fees. For residential land uses, persons per household (2.87 for a single family detached unit) are multiplied by the capital cost per person ($123.19), for a development fee per single family detached unit of $353. For nonresidential land uses, such as a commercial shopping center less than 25,000 square feet, the

number of employees per square foot (0.00333) is multiplied by the capital cost per employee ($123.19) for a total of $0.41.

Figure 69: General Government Development Fee Schedule

Development Fees

Residential	Per Housing Unit
Single Family Detached	$353
Multi-Family	$280
All Other Housing	$340
Nonresidential	Per Square Foot/Hotel Room
Commercial / Shopping Center 25,000 SF or less	$0.41
Commercial / Shopping Center 25,001-50,000 SF	$0.35
Commercial/Shopping Center 50,001-100,000 SF	$0.31
Commercial/Shopping Center 100,001-200,000 SF	$0.27
Commercial/Shopping Center over 200,000 SF	$0.25
Office 10,000 SF or less	$0.55
Office 10,001-25,000 SF	$0.51
Office 25,001-50,000 SF	$0.48
Office 50,001-100,000 SF	$0.45
Office 100,000 SF	$0.41
Business Park	$0.39
Light Industrial	$0.28
Warehousing	$0.16
Manufacturing	$0.22
Hotel (per room)	$54

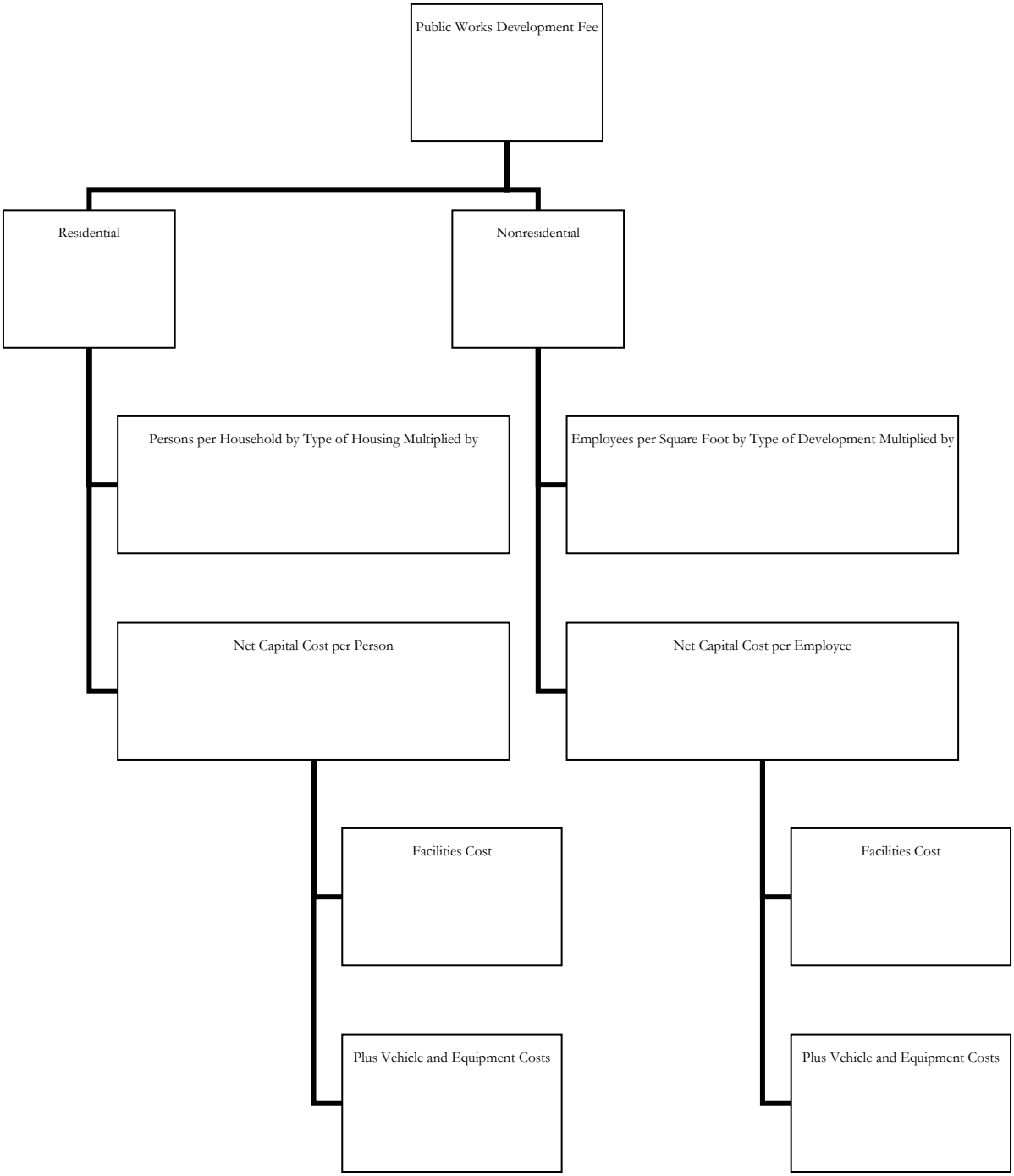
Public Works

METHODOLOGY

The Public Works Development Fee is calculated for both residential and nonresidential development. Residential development fees are calculated on a per capita basis and then converted to an appropriate amount by type of housing based on household size. Employee densities (jobs per square foot) are used to calculate nonresidential development fees.

The incremental expansion methodology is used for calculating the LOS standards for facilities and vehicles and equipment.

Figure 70: Public Works Development Fee Methodology



PUBLIC WORKS FACILITIES

The incremental expansion methodology is used to calculate the facilities component of the Public Works Development Fee. The first step of calculating the incremental expansion methodology measures the current LOS being provided to existing residential and nonresidential development. The second step involves determining the cost per person and job to provide this LOS.

Public Works Facilities – LOS Analysis

The City currently has 75,299 square feet of facilities used for public works activities. The residential proportionate share is calculated as follows: 65,338 persons/102,060 persons and jobs = .64 or 64%. Nonresidential development accounts for the remaining 36%. The current LOS for public works facilities for residential development is calculated as follows: ((75,299 square feet x 64%)/65,338 persons) = 0.74 square feet per person. This calculation is repeated for nonresidential development resulting in a current LOS of 0.74 square feet per job.

Figure 71: Public Works Facilities LOS Standards

Facility	*Square Feet*
City Hall	
Engineering	17,101
Public Works	2,563
Environmental Services	483
APS Building	9,866
GIS Building	1,394
Env. Svcs office	2,000
Fleet/Vehicle Shop	16,200
PW Yard Bldg 2	12,992
PW Yard Bldg 3 Solid waste garage	6,300
PW Yard Bldg 4	2,400
Thorpe - Whse/Shop	4,000
TOTAL	75,299
Current Demand Units	
Residential (population)	65,338
Nonresidential (jobs)	36,722
Proportionate Share Analysis	
Residential Development	64%
Nonresidential Development	36%
Current LOS	
Square Feet per Person	0.74
Square Feet per Job	0.74

Public Works Facilities – Cost Analysis

The City's current inventory of public works facilities has a total current value of $21,569,165; an average of $264 per square foot ($21,569,165/75,299 square feet). The cost per person is calculated by multiplying the current LOS of 0.74 square feet per person by $264 per square foot which results in a cost per person of $194.68 (0.74 x $264 = $194.68). This calculation is repeated using the nonresidential data, resulting in a cost per job of $194.68

Figure 72: Public Works Facilities Cost Standards

Facility	*Square Feet*	*Cost/ SF**	*Total*
City Hall			
Engineering	17,101	$295	$5,044,795
Public Works	2,563	$295	$756,085
Environmental Services	483	$295	$142,485
APS Building	9,866	$280	$2,762,480
GIS Building	1,394	$280	$390,320
Env. Svcs office	2,000	$250	$500,000
Fleet/Vehicle Shop	16,200	$250	$4,050,000
PW Yard Bldg 2	12,992	$250	$3,248,000
PW Yard Bldg 3 Solid waste garage	6,300	$250	$1,575,000
PW Yard Bldg 4	2,400	$250	$600,000
Thorpe - Whse/Shop	4,000	$200	$800,000
TOTAL	75,299		$19,869,165
		Average Cost per Square Foot =>	$264

Current LOS	
Square Feet per Person	0.74
Square Feet per Nonres Vehicle Trip	0.74
Cost Factor	
Cost per Square Foot*	$263.87
Cost	
Per Person	$194.68
Per Job	$194.68

* City of Flagstaff, Community Improvements Division.

PUBLIC WORKS VEHICLES AND EQUIPMENT

The incremental expansion methodology is used to calculate the vehicles and equipment component of the Public Works Development Fee. The first step of the analysis determines the current LOS being provided to existing development. The second step involves determining the cost per person and job to provide this LOS.

Public Works Vehicles & Equipment – LOS Analysis

The City's current fleet of public works vehicles and equipment totals 178 units. The residential proportionate share is calculated as follows: 65,338 persons/102,060 persons and jobs = .64 or 64%. Nonresidential development accounts for the remaining 36%. The current LOS for public works vehicles for residential development is calculated as follows: ((178 units x 64%)/65,338 persons) = 0.002 units per person. This calculation is repeated for nonresidential development resulting in a current LOS of 0.002 units per job.

Figure 73: Public Works Vehicles and Equipment LOS Standards

Division/Vehicle	*# of Units**
Public Works Admin	
Midsize Sedan	1
SUV	1
Vehicle Shop	
Compact Pickups	8
1/2 Ton Pickups	1
Midsize Sedans	3
Full-size Sedans	1
1 Ton Pickups w / Utility Beds	3
1 1/2 Ton Pickup w / Utility Bed	1
Fuel Truck	1
Boom Lift	1
Forklift	1
Facility Maintenance	
Compact Pickups	4
Full-size Sedan	1
3/4 - Ton Pickups	2
Aerial Lift 4x4 Truck	1
1-Ton Pickup	1
Manlift	1
City Hall Generator	1
1/2 - Ton 4x4 Pickups	6
Street Sweepers	5
Dump Trucks w/Plows & Cinder Boxes	19
Motor Graders	9
3-Yard Loaders	4
5 -Yard Loaders	4
Backhoe	1
1-Ton Dump Bed Trucks	4
Side dump Trailer	1
Misc Trailers	9
Misc. Flat Bed Trailers	3
Truck Tractors	3
End Dump Trailers	2
Patch Trucks	2
Aerial Lift	1
Dozers	2
Drain Cleaning Machine	1
Paint Striper	1
Asphalt Paver	1
Snow Blowers	2
Water Tender	1
Gradall	1
Conveyor Screen	1
Compressor	1
Rollers	2

Environmental Services	
Bin Maint. Trucks	2
Dump Trucks	2
Midsize Sedan	1
SUV	2
Electric Cart	1
Hybrid Sedan	3
Compact Pickups	2
1/2 Ton 4x4 Pickups	6
3/4 Ton Pickup	1
1-Ton Pickups	3
Roll off Trucks	4
Top Loader Trucks	9
Side Loader Trucks	13
Rear Loader Trucks	3
Dozers	2
5 - Yard Front End Loader	1
Backhoe	1
Motor Grader	1
Water Tender	1
Brush Chipper	1
TOTAL	178

Current Demand Units	
Residential (population)	65,338
Nonresidential (jobs)	36,722
Proportionate Share Analysis	
Residential Development	64%
Nonresidential Development	36%
Current LOS	
Vehicles/Equipment per Person	0.002
Vehicles/Equipment per Job	0.002

Public Works Vehicles & Equipment – Cost Analysis

The City's Fleet Management Division estimates the current fleet of public works vehicles and equipment to have a total value of $22,573,100, an average of $126,815 per unit ($22,573,100/178 units = $126,815). For residential development, the cost per person is calculated by multiplying the current residential LOS of 0.002 units per person by $126,815 per unit (0.002 x $126,815 = $221.18). This calculation is repeated for nonresidential development resulting in a cost per job of $221.18 for public works vehicles and equipment.

Figure 74: Public Works Vehicles and Equipment Cost Standards

Vehicle	*# of Units**	*Cost/ Unit**	*TOTAL*
Public Works Admin			
Midsize Sedan	1	$16,000	$16,000
SUV	1	$28,000	$28,000
Vehicle Shop			
Compact Pickups	8	$19,000	$152,000
1/2 Ton Pickups	1	$20,000	$20,000
Midsize Sedans	3	$16,000	$48,000
Full-size Sedans	1	$22,200	$22,200
1 Ton Pickups w / Utility Beds	3	$40,000	$120,000
1 1/2 Ton Pickup w / Utility Bed	1	$48,000	$48,000
Fuel Truck	1	$95,000	$95,000
Boom Lift	1	$55,000	$55,000
Forklift	1	$30,000	$30,000
Facility Maintenance			
Compact Pickups	4	$19,000	$76,000
Full-size Sedan	1	$22,200	$22,200
3/4 - Ton Pickups	2	$26,000	$52,000
Aerial Lift 4x4 Truck	1	$80,000	$80,000
1-Ton Pickup	1	$27,000	$27,000
Manlift	1	$10,000	$10,000
City Hall Generator	1	$180,000	$180,000
1/2 - Ton 4x4 Pickups	6	$20,000	$120,000
Street Sweepers	5	$195,000	$975,000
Dump Trucks w/Plows & Cinder Boxes	19	$180,000	$3,420,000
Motor Graders	9	$310,000	$2,790,000
3-Yard Loaders	4	$175,000	$700,000
5 -Yard Loaders	4	$318,000	$1,272,000
Backhoe	1	$88,000	$88,000
1-Ton Dump Bed Trucks	4	$26,000	$104,000
Side dump Trailer	1	$32,000	$32,000
Misc Trailers	9	$15,000	$135,000
Misc. Flat Bed Trailers	3	$30,000	$90,000
Truck Tractors	3	$80,000	$240,000
End Dump Trailers	2	$32,000	$64,000
Patch Trucks	2	$100,000	$200,000
Aerial Lift	1	$125,000	$125,000
Dozers	2	$380,000	$760,000
Drain Cleaning Machine	1	$244,000	$244,000
Paint Striper	1	$180,000	$180,000
Asphalt Paver	1	$120,000	$120,000
Snow Blowers	2	$450,000	$900,000
Water Tender	1	$200,000	$200,000
Gradall	1	$250,000	$250,000
Conveyor Screen	1	$100,000	$100,000
Compressor	1	$15,000	$15,000
Rollers	2	$35,000	$70,000

Environmental Services			
Bin Maint. Trucks	2	$35,000	$70,000
Dump Trucks	2	$180,000	$360,000
Midsize Sedan	1	$16,000	$16,000
SUV	2	$28,000	$56,000
Electric Cart	1	$10,700	$10,700
Hybrid Sedan	3	$28,000	$84,000
Compact Pickups	2	$19,000	$38,000
1/2 Ton 4x4 Pickups	6	$20,000	$120,000
3/4 Ton Pickup	1	$26,000	$26,000
1-Ton Pickups	3	$27,000	$81,000
Roll off Trucks	4	$139,000	$556,000
Top Loader Trucks	9	$221,000	$1,989,000
Side Loader Trucks	13	$200,000	$2,600,000
Rear Loader Trucks	3	$195,000	$585,000
Dozers	2	$380,000	$760,000
5 - Yard Front End Loader	1	$318,000	$318,000
Backhoe	1	$88,000	$88,000
Motor Grader	1	$310,000	$310,000
Water Tender	1	$200,000	$200,000
Brush Chipper	1	$30,000	$30,000
TOTAL	178		$22,573,100

Average Cost per Vehicle/Equipment =>	$126,815

Current LOS	
Square Feet per Person	0.002
Square Feet per Nonres Vehicle Trip	0.002
Cost Factor	
Cost per Vehicle/Equipment	$126,815
Cost	
Per Person	$221.18
Per Job	$221.18

* City of Flagstaff, Fleet Management Division.

DEVELOPMENT FEE STUDY

The City should update its development fees every three years to ensure the methodologies, assumptions, and cost factors used in the calculations are still valid and accurate. As we do with many of our Arizona development fee clients, TischlerBise has included the cost of preparing the current Public Works Development Fee in the fee calculations in order to create a source of funding to conduct this regular update. This cost ($5,700) is allocated to the projected increase in population and jobs over the next three years. A three year period is used since this is the period of time at

which the development fee methodology should be revisited in a growing community. This results in a development fee study cost per demand unit of $0.76 per person and job ($5,700/7,506 people and jobs).

PUBLIC WORKS DEVELOPMENT FEE

Figure 75 provides a summary of the cost factors used to calculate the Public Works Development Fees. These fees are calculated for both residential and nonresidential land uses. Developers may be eligible for site-specific credits or reimbursements only if they provide system improvements that have been included in the Public Works Development Fee calculation schedule. Specific policies and procedures related to site-specific credits for system improvements are addressed in the ordinance that establishes the City's fees. Project improvements normally required as part of the development approval process are not eligible for credits against development fees.

As shown in the bottom of Figure 75, the capital costs per demand unit are $416.62 per person and job.

Figure 75: Public Works Development Fee Cost Summary

Persons Per Household		
Single Family Detached	2.87	
Multi-Family	2.28	
All Other Housing	2.76	
Employees per Square Foot/Hotel Room		
Commercial / Shopping Center 25,000 SF or less		0.00333
Commercial / Shopping Center 25,001-50,000 SF		0.00286
Commercial/Shopping Center 50,001-100,000 SF		0.00250
Commercial/Shopping Center 100,001-200,000 SF		0.00222
Commercial/Shopping Center over 200,000 SF		0.00200
Office 10,000 SF or less		0.00448
Office 10,001-25,000 SF		0.00415
Office 25,001-50,000 SF		0.00391
Office 50,001-100,000 SF		0.00369
Office 100,000 SF		0.00335
Business Park		0.00316
Light Industrial		0.00231
Warehousing		0.00128
Manufacturing		0.00179
Hotel (per room)		0.43950
Cost Summary	Per Person	Per Job
Facilities	$194.68	$194.68
Vehicles/Equipment	$221.18	$221.18
Development Fee Study	$0.76	$0.76
Total Capital Cost	**$416.62**	**$416.62**

Figure 76 contains a schedule of the Public Works Development Fees. For residential land uses, persons per household (2.87 for a single family detached unit) are multiplied by the capital cost per person ($416.62), for a development fee per single family detached unit of $1,195. For nonresidential land uses, such as a commercial shopping center less than 25,000 square feet, the number of employees per square foot (0.00333) is multiplied by the capital cost per employee ($416.62) for a total of $1.39 per square foot.

Figure 76: General Government Development Fee Schedule

Development Fees

Residential	Per Housing Unit
Single Family Detached	$1,195
Multi-Family	$948
All Other Housing	$1,151
Nonresidential	Per Square Foot/Hotel Room
Commercial / Shopping Center 25,000 SF or less	$1.39
Commercial / Shopping Center 25,001-50,000 SF	$1.19
Commercial/Shopping Center 50,001-100,000 SF	$1.04
Commercial/Shopping Center 100,001-200,000 SF	$0.92
Commercial/Shopping Center over 200,000 SF	$0.83
Office 10,000 SF or less	$1.87
Office 10,001-25,000 SF	$1.73
Office 25,001-50,000 SF	$1.63
Office 50,001-100,000 SF	$1.54
Office 100,000 SF	$1.40
Business Park	$1.32
Light Industrial	$0.96
Warehousing	$0.53
Manufacturing	$0.75
Hotel (per room)	$183

Transportation

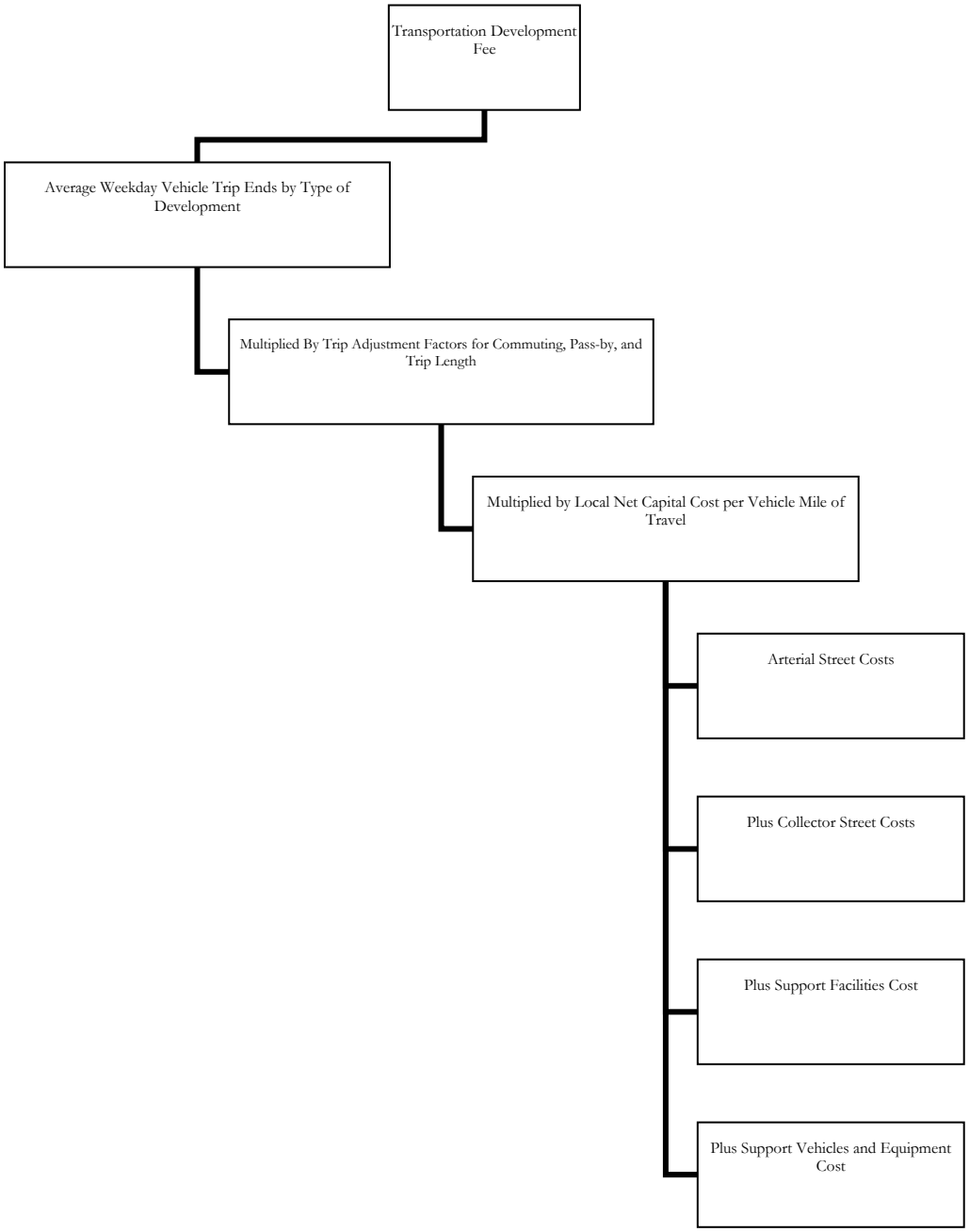
METHODOLOGY

As shown in Figure 77, trip generation rates by type of development are multiplied by the capital cost per vehicle miles of travel (VMT) to yield the Transportation Development Fees. The methodology includes trip adjustment factors for commuting patterns, pass-by trips and average trip length variation by type of land use.

The buy-in methodology is used for recently completed collector streets which have excess capacity from which new growth will benefit. The plan-based methodology is used to measure the LOS that will be provided from planned capacity improvements to arterial and collector streets. Under the plan-based methodology, there are two approaches considered. The *marginal cost approach* is used for projects which are the result of new growth only. These costs are allocated to the net increase in VMT's provided by the planned capacity improvements. The *average cost approach* is used for planned capacity improvements that result from both existing and future development. Under this approach, costs are conservatively allocated to both new and existing development and ensure that new growth pays only its share of the costs.

The incremental expansion methodology is used for the support facilities and vehicles and equipment components of the Transportation Development Fee.

Figure 77: Transportation Development Fee Methodology



TRIP GENERATION RATES

Trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* The Transportation Development Fees are based on average weekday vehicle trip ends. A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate the development fees, trip generation rates are adjusted to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50%. As discussed further below, the development fee methodology includes additional adjustments to make the fees more proportionate to the infrastructure demand for particular types of development.

ADJUSTMENT FOR JOURNEY-TO-WORK COMMUTING

Residential development has a higher trip adjustment factor of 65% to account for commuters leaving Flagstaff for work. According to the *National Household Transportation Survey* (see Table 6, Federal Highway Administration, 2001) home-based work trips are typically 31% of production trips (i.e., all out-bound trips, which are 50% of all trip ends). Also, Census 2000 data from Table P27 in Summary File 3 indicates that 13% of Flagstaff's workers travel outside the City for work. In combination, these factors (0.31 x 0.50 x 0.13 = 0.02) account for 2% of production trips. The total adjustment factor for residential includes attraction trips (50% of trip ends) plus the journey-to-work commuting adjustment (2% of production trips) for a total of 52%.

ADJUSTMENT FOR PASS-BY TRIPS

Data contained in the book *Trip Generation Manual* indicates there is an inverse relationship between the size of shopping centers and pass-by trips. Therefore, appropriate trip adjustment factors have been calculated according to shopping center size (see Figure 78 below). For shopping center/retail development, the trip adjustment factor is less than 50% because these land uses attract vehicles as they pass by on arterial streets. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For a small-size shopping center of 50,000 square feet of floor area, the *Trip Generation Manual* indicates that on average 39% of the vehicles that enter are passing by on their way to some other primary destination. The remaining 61% of attraction trips have the shopping center as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 61% multiplied by 50%, or approximately 31% of the trip ends.

Figure 78: Shopping Center/Retail Trip Rates and Adjustment Factors

Floor Area in thousands (KSF)	Commercial Pass-by Trips*	Commercial Trip Adj Factor**	*Shopping Centers* (ITE 820)		*General Office* (ITE 710)		*Shopping Centers* (ITE 820)		*General Office* (ITE 710)	
			Trip Ends	Rate/KSF	Trip Ends	Rate/KSF	Trip Ends	Rate/KSF	Trip Ends	Rate/KSF
10	52%	24%	1,520	152.03	227	22.66	137	13.70	90	9.00
25	45%	28%	2,758	110.32	459	18.35	251	10.03	107	4.27
50	39%	31%	4,328	86.56	782	15.65	396	7.92	135	2.70
100	34%	33%	6,791	67.91	1,334	13.34	626	6.26	191	1.91
200	29%	36%	10,656	53.28	2,275	11.37	989	4.95	303	1.51
400	23%	39%	16,722	41.80	3,879	9.70	1,563	3.91	527	1.32
800	18%	41%	26,239	32.80	6,615	8.27	2,470	3.09	975	1.22

Source: Trip Generation, Institute of Transportation Engineers, 2003.

* Based on data published by ITE in Trip Generation Handbook (2004), the best trendline correlation between pass-by trips and floor area is a logarithmic curve with the equation ((-7.6812*LN(KSF)) + 69.293).

** To convert trip ends to vehicle trips, the standard adjustment factor is 50%. Due to pass-by trips, commercial trip adjustment factors are lower, as derived from the following formula (0.50*(1-passby pct)).

AVERAGE TRIP LENGTH ADJUSTMENT BY LAND USE

The demand for street infrastructure is a function of both the number of vehicle trips and the distance traveled. Multiplying the number of vehicle trips by the average trip length (in miles) yields vehicle miles of travel (VMT). The Transportation Development Fee methodology includes a percentage adjustment to account for trip length variation by type of land use. As documented in Table 6 of the *National Household Travel Survey* (FHWA, 2001), vehicle trips from residential development are approximately 122% of the average trip length. Trips associated with residential development include home-based work trips plus social and recreational purposes. Conversely, shopping trips associated with commercial development are roughly 68% of the average trip length, while other nonresidential development typically accounts for trips that are 75% of the average trip length.

ARTERIAL STREETS

The City plans to construct 32.8 land miles of arterial streets at a cost of $176,724,008 to the City.

Figure 79: Planned Arterial Street Improvements

Project	*New Lane Miles*	*City Cost*
Butler Ave Widening - Little America to Sinagua Heights	3.2	$8,029,463
University Realignment	0.0	$3,500,000
Lone Tree TI	0.0	$19,300,000
Lone Tree RR Overpass	0.0	$33,300,000
Lone Tree widening: Sawmill to I-40	3.0	$11,800,000
Empire Avenue: Preston to Route 66	2.0	$3,954,545
Woody Mountain Loop: I-40 to I-17	11.8	$23,600,000
Woody Mountain Loop: I-17 to J.W. Powell	2.2	$4,440,000
J.W. Powell Blvd: Pine Canyon to Canyon del Rio	5.0	$10,000,000
Beulah Boulevard widening: Airport TI to Lake Mary	2.8	$5,600,000
Woody Mtn/I-40 Interchange	0.0	$19,300,000
Woody Mtn/I-17 Interchange	0.0	$19,300,000
Lone Tree realignment	2.8	$14,600,000
TOTAL	**32.8**	**$176,724,008**

Sources: City of Flagstaff, *FY2007 Capital Improvement Program* and *Flagstaff Area Regional Land Use and Transportation Plan* .

VEHICLE MILES OF TRAVEL ON PLANNED ARTERIAL STREETS

VMT is the product of the number of vehicle trips multiplied by the average trip length. These factors are discussed below.

Arterial Vehicle Trips from Development in Flagstaff

Figure 80 documents projected vehicle trips and VMT on the planned arterial improvements associated with development in Flagstaff through FY2027. The planned projects are expected to provide capacity for the next twenty years, thus FY2007 to FY2027 is the time horizon used in the analysis.

The demographic data shown in the boxes at the top of the table are from Appendix A at the back of this report. Trip generation rates and trip adjustment factors, as used in the development fee calculations, convert projected development into average weekday vehicle trips (shown with gray shading).

Lane Miles

The City plans to construct 32.8 lane miles.

Lane Capacity

The arterial improvements component is based on a lane capacity standard for arterials of 8,500 vehicles per lane which represents a LOS of D.

Average Trip Length

Knowing the increase in vehicle trips, planned arterial lane miles, and lane capacity, it is possible to derive the average trip length on the planned arterial streets from new and existing residential and nonresidential growth in Flagstaff. Because the VMT calculations include the same adjustment factors used in the development fee calculations (i.e., residential commuting adjustment, commercial pass-by adjustment and average trip length adjustment by type of land use), the average trip length is determined through a series of iterations using spreadsheet software. As shown in Figure 80, the average trip length on the planned arterial street projects by new and existing residential and nonresidential development is 1.85 miles.

Figure 80: Arterial Street Capacity Analysis

Transportation Capacity Analysis - Arterials

INPUT VARIABLES		Year->	Base	*5 Year Increments* 5	10	15	20
		Flagstaff, Arizona	2007	2012	2017	2022	2027
		DEMAND DATA					
Single Family Detached Weekday VTE per Unit	9.57	SINGLE FAMILY DETACHED	11,578	13,227	15,074	17,144	19,464
Multi-family Detached Weekday VTE per Unit	5.86	MULTI-FAMILY	11,139	12,434	13,884	15,510	17,331
All Other Housing Weekday VTE per Unit	4.99	ALL OTHER TYPES OF HOUSING	1,730	1,730	1,730	1,730	1,730
Commercial Weekday VTE/KSF	86.56	COMMERCIAL KSF	5,938	6,882	7,626	8,460	9,394
Office/Institutional Weekday VTE/KSF	18.35	OFFICE/INSTITUTIONAL KSF	6,471	6,850	7,275	7,751	8,285
Industrial Flex Weekday VTE/KSF	12.76	INDUSTRIAL/FLEX KSF	1,249	1,451	1,677	1,930	2,213
Residential Trip Adj Factor	52%	*SINGLE FAMILY DETACHED TRIPS*	57,659	65,870	75,071	85,380	96,929
Commercial Trip Adj Factor	31%	*MULTI-FAMILY TRIPS*	33,967	37,916	42,339	47,296	52,849
Other Nonresidential Trip Adj Factor	50%	*ALL OTHER TYPES OF HOUSING TRIPS*	4,492	4,492	4,492	4,492	4,492
County Road Trips	100%	*COMMERCIAL TRIPS*	159,338	184,670	204,635	227,004	252,067
Average Miles/Arterial Trip	**1.85**	*OFFICE/INSTITUTIONAL TRIPS*	59,371	62,851	66,749	71,117	76,011
Residential Trip Length	122%	*INDUSTRIAL/FLEX TRIPS*	7,969	9,255	10,696	12,311	14,120
Commercial Trip Length	68%	*TOTAL IFA ARTERIAL TRIPS*	322,796	365,055	403,983	447,600	496,468
Other Nonresidential Trip Length	75%	ARTERIAL VMT	509,440	575,188	638,291	708,994	788,209
Ave. Arterial Capacity Per Lane (LOS D)	8,500	ARTERIAL LN MI	59.9	67.7	75.1	83.4	92.7
		ANNUAL ARTERIAL LN MI NEEDED		1.4	1.6	1.7	1.9
		CUMULATIVE ARTERIAL LN MI NEEDED		7.8	15.2	23.5	**32.8**

COST PER VMT FOR PLANNED ARTERIAL STREETS

For the planned arterial street projects, two cost allocation approaches are considered. The *marginal cost approach* is used for projects which are the result of new growth only. These costs are allocated to the net increase in VMT's utilizing the capacity of these projects through FY2027. The *average cost approach* is used for planned capacity improvements that result from both existing and future development. Under this approach, costs are conservatively allocated to both new and existing development utilizing the capacity of these projects through FY2027 and ensure that new growth pays only its share of the costs.

The total cost of the planned arterial street projects which are the result of both new and existing development totals $79,884,008. This figure is divided by the total number of Citywide arterial VMT's on these projects through FY2027 (788,209) which is derived from Figure 80 above. This results in a cost per VMT of $101.35.

The total cost of the planned arterial streets projects which are the result of new growth total $96,840,000. This figure is divided by the net increase in Citywide arterial VMT's on these projects through FY2027 (278,770) which is taken from Figure 80 above. This results in a cost per VMT of $347.38.

The total cost per VMT for planned arterial street improvements is $448.73 ($101.35+$347.38=$448.73).

Figure 81: Planned Arterial Street Improvements Cost per VMT

AVERAGE APPROACH - Result of Existing and New Development

Project	*New Lane Miles*	*City Cost*
Butler Ave Widening - Little America to Sinagua Heights	3.2	$8,029,463
University Realignment	0.0	$3,500,000
Lone Tree TI	0.0	$19,300,000
Lone Tree RR Overpass	0.0	$33,300,000
Lone Tree widening: Sawmill to I-40	3.0	$11,800,000
Empire Avenue: Preston to Route 66	2.0	$3,954,545
TOTAL	**8.2**	**$79,884,008**

Citywide Arterial VMT's FY2027	788,209
Cost per VMT	$101.35

MARGINAL APPROACH - Result of New Development

Project	*New Lane Miles*	*City Cost*
Woody Mountain Loop: I-40 to I-17	11.8	$23,600,000
Woody Mountain Loop: I-17 to J.W. Powell	2.2	$4,440,000
J.W. Powell Blvd: Pine Canyon to Canyon del Rio	5.0	$10,000,000
Beulah Boulevard widening: Airport TI to Lake Mary	2.8	$5,600,000
Woody Mtn/I-40 Interchange	0.0	$19,300,000
Woody Mtn/I-17 Interchange	0.0	$19,300,000
Lone Tree realignment	2.8	$14,600,000
TOTAL	**24.6**	**$96,840,000**

Net Increase in Citywide Arterial VMT's FY2007-FY2027	278,770
Cost per VMT	$347.38
TOTAL COST PER VMT	**$448.73**

COLLECTOR STREETS

The collector streets component of the Transportation Development Fee contains two elements including recently completed collector projects which still have available capacity and planned capacity improvements for collector streets.

Figure 82 lists collector streets the City has recently completed which still have available capacity to be utilized by new development. These streets total 1.4 lane miles with a cost to the City of $11,732,000.

Figure 82: Recently Completed Collector Streets

Project	*New Lane Miles*	*City Cost*
Soliere Avenue Extension	0.2	$1,048,000
Butler/Enterprise Intersection	0.9	$7,698,000
Empire Avenue Extension	0.3	$2,986,000
TOTAL	**1.4**	**$11,732,000**

The City plans to construct 7.3 lane miles of collector streets at a cost of $20,211,881 to the City.

Figure 83: Planned Arterial Streets

Project	*New Lane Miles*	*City Cost*
Beulah Blvd Extension	1.8	$4,811,600
Country Club/Oakmont	0.0	$600,000
Industrial Drive-Fanning to Eagle Mtn Dr	2.0	$766,932
Huntington Drive Improvements	0.0	$3,350,076
West/Arrowhead Improvements	0.0	$3,726,000
Butler Avenue extension (section 20)	2.1	$4,240,000
McMillan Mesa Area Plan	1.4	$2,727,273
TOTAL	**7.3**	**$20,221,881**

Sources: City of Flagstaff, *FY2007 Capital Improvement Program* and *Flagstaff Area Regional Land Use and Transportation Plan* .

VEHICLE MILES OF TRAVEL ON RECENTLY COMPLETED AND PLANNED COLLECTOR STREETS

VMT is the product of the number of vehicle trips multiplied by the average trip length. These factors are discussed below.

Collector Vehicle Trips from Development in Flagstaff

Figure 84 documents projected vehicle trips and VMT on the recently completed and planned collector improvements associated with development in Flagstaff through FY2027. The planned projects are expected to provide capacity for the next twenty years, thus FY2007 to FY2027 is the time horizon used in the analysis.

The demographic data shown in the boxes at the top of the table are from Appendix A at the back of this report. Trip generation rates and trip adjustment factors, as used in the development fee calculations, convert projected development into average weekday vehicle trips (shown with gray shading).

Lane Miles

The recently completed and planned collector improvements total 8.7 lane miles.

Lane Capacity

The collector improvements component is based on a lane capacity standard for collectors of 3,900 vehicles per lane which represents a LOS of D.

Average Trip Length

Knowing the increase in vehicle trips, lane-miles from recently completed and planned collector streets, and lane capacity, it is possible to derive the average trip length on the recently completed and planned collector streets from new and existing residential and nonresidential growth in Flagstaff. Because the VMT calculations include the same adjustment factors used in the development fee calculations (i.e., residential commuting adjustment, commercial pass-by adjustment and average trip length adjustment by type of land use), the average trip length is determined through a series of iterations using spreadsheet software. As shown in Figure 84, the average trip length on the recently completed and planned collector street projects by new and existing residential and nonresidential development is 0.23 miles.

Figure 84: Collector Street Capacity Analysis

Transportation Capacity Analysis - Collectors

INPUT VARIABLES		Year->	Base	5 Year Increments 5	10	15	20
		Flagstaff, Arizona	2007	2011	2016	2021	2026
		DEMAND DATA					
Single Family Detached Weekday VTE per Unit	9.57	SINGLE FAMILY DETACHED	11,578	13,227	15,074	17,144	19,464
Multi-family Detached Weekday VTE per Unit	5.86	MULTI-FAMILY	11,139	12,434	13,884	15,510	17,331
All Other Housing Weekday VTE per Unit	4.99	ALL OTHER TYPES OF HOUSING	1,730	1,730	1,730	1,730	1,730
Commercial Weekday VTE/KSF	86.56	COMMERCIAL KSF	5,938	6,882	7,626	8,460	9,394
Office/Institutional Weekday VTE/KSF	18.35	OFFICE/INSTITUTIONAL KSF	6,471	6,850	7,275	7,751	8,285
Industrial Flex Weekday VTE/KSF	12.76	INDUSTRIAL/FLEX KSF	1,249	1,451	1,677	1,930	2,213
Residential Trip Adj Factor	52%	*SINGLE FAMILY DETACHED TRIPS*	57,659	65,870	75,071	85,380	96,929
Commercial Trip Adj Factor	31%	*MULTI-FAMILY TRIPS*	33,967	37,916	42,339	47,296	52,849
Other Nonresidential Trip Adj Factor	50%	*ALL OTHER TYPES OF HOUSING TRIPS*	4,492	4,492	4,492	4,492	4,492
County Road Trips	100%	*COMMERCIAL TRIPS*	159,338	184,670	204,635	227,004	252,067
Average Miles/Collector	**0.23**	*OFFICE/INSTITUTIONAL TRIPS*	59,371	62,851	66,749	71,117	76,011
Residential Trip Length	122%	*INDUSTRIAL/FLEX TRIPS*	7,969	9,255	10,696	12,311	14,120
Commercial Trip Length	68%	*TOTAL IFA ARTERIAL TRIPS*	322,796	365,055	403,983	447,600	496,468
Other Nonresidential Trip Length	75%	ARTERIAL VMT	62,127	70,145	77,840	86,463	96,123
Ave. Collector Capacity Per Lane (LOS D)	3,900	ARTERIAL LN MI	15.9	18.0	20.0	22.2	24.6
		ANNUAL ARTERIAL LN MI NEEDED		0.4	0.5	0.5	0.5
		CUMULATIVE ARTERIAL LN MI NEEDED		2.1	4.1	6.3	**8.7**

COST PER VMT FOR RECENTLY COMPLETED AND PLANNED COLLECTOR STREETS

For the collector street projects, two cost allocation approaches are considered. The *average cost approach* is used for recently completed and planned capacity improvements that result from both existing and future development. Under this approach, costs are conservatively allocated to both new and existing development utilizing the capacity of these projects through FY2027 and ensure that new growth pays only its share of the costs. The *marginal cost approach* is used for planned projects which are the result of new growth only. These costs are allocated to the net increase in VMT's utilizing the capacity of these projects through FY2027.

The total cost of the collector street projects which are the result of both new and existing development totals $22,944,598. This figure is divided by the total number of Citywide collector

VMT's on these projects through FY2027 (96,123) which is derived from Figure 85 above. This results in a cost per VMT of $238.70.

The total cost of the planned collector streets projects which are the result of new growth total $6,967,273. This figure is divided by the net increase in Citywide collector VMT's on these projects through FY2027 (33,996) which is taken from Figure 85 above. This results in a cost per VMT of $204.94.

The total cost per VMT for collector street improvements is $443.64 ($238.70+$204.94=$443.64).

Figure 85: Recently Completed and Planned Collector Improvements Cost per VMT

AVERAGE APPROACH - Result of Existing and New Development

Project	*New Lane Miles*	*City Cost*
Soliere Avenue Extension	0.2	$1,048,000
Butler/Enterprise Intersection	0.9	$7,698,000
Empire Avenue Extension	0.3	$943,990
Beulah Blvd Extension	1.8	$4,811,600
Country Club/Oakmont	0.0	$600,000
Industrial Drive Paving	2.0	$766,932
Huntington Drive	0.0	$3,350,076
West/Arrowhead Improvements	0.0	$3,726,000
TOTAL	**5.2**	**$22,944,598**

Citywide Collector VMT's FY2027	96,123
Cost per VMT	$238.70

MARGINAL APPROACH - Result of New Development

Project	*New Lane Miles*	*City Cost*
Butler Avenue extension (section 20)	2.1	$4,240,000
McMillan Mesa Area Plan	1.4	$2,727,273
TOTAL	**3.5**	**$6,967,273**

Net Increase in Citywide Collector VMT's FY2007-FY2027	33,996
Cost per VMT	$204.94
TOTAL COST PER VMT	**$443.64**

TRANSPORTATION SUPPORT FACILITIES

The incremental expansion methodology is used to calculate the support facilities component of the Transportation Development Fee. The first step of calculating the incremental expansion methodology measures the current LOS being provided to existing residential and nonresidential development. The second step involves determining the cost per trip to provide this LOS.

Transportation Support Facilities – LOS Analysis

The City currently has 6,800 square feet of facilities used for transportation-related activities. The current LOS for transportation support facilities is calculated as follows: 6,800 square feet/319,032 vehicle trips from development in Flagstaff = 0.02 square feet per trip.

Figure 86: Transportation Support Facilities LOS Standards

Facility	*Square Feet*
Streets Building	6,800
TOTAL	6,800
Current Demand Units	
Vehicle Trips	319,032
Current LOS	
Square Feet per Vehicle Trip	0.02

Transportation Support Facilities – Cost Analysis

The City's Community Improvements Division estimates it costs $250 per square foot to provide comparable transportation support facilities. The cost per trip is calculated by multiplying the current LOS of 0.02 square feet per trip by $250 per square foot which results in a cost per trip of $5.33 (0.02 x $250= $5.33).

Figure 87: Transportation Support Facilities Cost Standards

Current LOS	
Square Feet per Vehicle Trip	0.02
Cost Factor	
Cost per Square Foot*	$250
Cost	
Per Trip	$5.33

* City of Flagstaff, Community Improvements Division.

TRANSPORTATION SUPPORT VEHICLES & EQUIPMENT

The incremental expansion methodology is used to calculate the support vehicles and equipment component of the Transportation Development Fee. The first step of the analysis determines the current LOS being provided to existing development. The second step involves determining the cost per trip to provide this LOS.

Support Vehicles & Equipment – LOS Analysis

The City's current fleet of vehicles and equipment used to support the City's transportation total 86 units. The current LOS for is calculated as follows: (86 vehicles/319,032 vehicle trips) = 0.0003 vehicles per trip.

Figure 88: Transportation Support Vehicles & Equipment LOS Standards

Vehicle	*# of Units*
Street Maintenance	
1/2 - Ton 4x4 Pickups	6
Street Sweepers	5
Dump Trucks w/Plows & Cinder Boxes	19
Motor Graders	9
3-Yard Loaders	4
5 -Yard Loaders	4
Backhoe	1
1-Ton Dump Bed Trucks	4
Side dump Trailer	1
Misc Trailers	9
Misc. Flat Bed Trailers	3
Truck Tractors	3
End Dump Trailers	2
Patch Trucks	2
Aerial Lift	1
Dozers	2
Drain Cleaning Machine	1
Paint Striper	1
Asphalt Paver	1
Snow Blowers	2
Water Tender	1
Gradall	1
Conveyor Screen	1
Compressor	1
Rollers	2
TOTAL	86
Current Demand Units	
Vehicle Trips	319,032
Current LOS	
Vehicles/Equipment per Trip	0.0003

Support Vehicles & Equipment – Cost Analysis

The City's Fleet Management Division estimates the current fleet of transportation related vehicles and equipment to have a total value of $13,194,000, an average of $153,419 per unit ($13,194,000/86 units = $153,419). This results in a cost factor of $41.36 per trip. This is calculated by multiplying the current LOS of 0.0003 vehicles per trip by $153,419 per unit (0.0003 x $153,419 = $41.36).

Figure 89: Transportation Support Vehicles & Equipment Cost Standards

Vehicle	*# of Units*	*Cost/ Unit**	*TOTAL*
Street Maintenance			
1/2 - Ton 4x4 Pickups	6	$20,000	$120,000
Street Sweepers	5	$195,000	$975,000
Dump Trucks w/Plows & Cinder Boxes	19	$180,000	$3,420,000
Motor Graders	9	$310,000	$2,790,000
3-Yard Loaders	4	$175,000	$700,000
5 -Yard Loaders	4	$318,000	$1,272,000
Backhoe	1	$88,000	$88,000
1-Ton Dump Bed Trucks	4	$26,000	$104,000
Side dump Trailer	1	$32,000	$32,000
Misc Trailers	9	$15,000	$135,000
Misc. Flat Bed Trailers	3	$30,000	$90,000
Truck Tractors	3	$80,000	$240,000
End Dump Trailers	2	$32,000	$64,000
Patch Trucks	2	$100,000	$200,000
Aerial Lift	1	$125,000	$125,000
Dozers	2	$380,000	$760,000
Drain Cleaning Machine	1	$244,000	$244,000
Paint Striper	1	$180,000	$180,000
Asphalt Paver	1	$120,000	$120,000
Snow Blowers	2	$450,000	$900,000
Water Tender	1	$200,000	$200,000
Gradall	1	$250,000	$250,000
Conveyor Screen	1	$100,000	$100,000
Compressor	1	$15,000	$15,000
Rollers	2	$35,000	$70,000
TOTAL	86		$13,194,000

Average Cost per Vehicle/Equipment =>	$153,419
Current LOS	
Vehicles/Equipment per Trip	0.0003
Cost Factor	
Cost per Vehicle/Equipment	$153,419
Cost	
Per Vehicle Trip	$41.36

* City of Flagstaff, Fleet Management Division.

DEVELOPMENT FEE STUDY

The City should update its development fees every three years to ensure the methodologies, assumptions, and cost factors used in the calculations are still valid and accurate. As we do with many of our Arizona development fee clients, TischlerBise has included the cost of preparing the current Transportation Development Fee in the fee calculations in order to create a source of funding to conduct this regular update. This cost ($18,100) is allocated to the projected increase in vehicle trips over the next three years. A three year period is used since this is the period of time at which the development fee methodology should be revisited in a growing community. This results in a development fee study cost per demand unit of $0.66 per trip ($18,100/27,606 trips).

TRANSPORTATION DEVELOPMENT FEE

Factors used to derive the Transportation Development Fees are shown in Figure 90 below.

Developers may be eligible for site-specific credits or reimbursements only if they provide system improvements that have been included in the Transportation Development Fee calculation schedule. Specific policies and procedures related to site-specific credits for system improvements are addressed in the ordinance that establishes the City's fees. Project improvements normally required as part of the development approval process are not eligible for credits against development fees.

Capital cost for the average length trip is derived from level-of-service components shown near the bottom of Figure 90. The capital cost for the average length trip is the product of the average trip length on the projects multiplied by the trip length adjustment factor and the capital cost per vehicle mile of travel. For example, the capital cost for arterial street improvements for residential development is 1.85 miles x 1.22 x $448.73= $1,010.05 per trip. This is repeated for other street capacity component for commercial and other nonresidential land uses.

Costs for support facilities, vehicles, equipment, and the development fee study are added to these street components costs.

Figure 90: Transportation Development Fee Level of Service Standard Summary

ITE Code		Residential	Commercial / Shopping Ctrs	Other Nonres
Weekday Vehicle Trip Ends				
	Residential (per Housing Unit)			
210	Single Family Detached	9.57		
220	Multi-family	5.86		
240	All Other Types of Housing	4.99		
	Nonresidential (per Square Foot of Floor Area)			
820	Com / Shop Ctr 25,000 SF or less		0.11032	
820	Com / Shop Ctr 25,001-50,000 SF		0.08656	
820	Com / Shop Ctr 50,001-100,000 SF		0.06791	
820	Com / Shop Ctr 100,001-200,000 SF		0.05328	
820	Com / Shop Ctr over 200,000 SF		0.04180	
710	Office / Inst 10,000 SF or less			0.02266
710	Office / Inst 10,001-25,000 SF			0.01835
710	Office / Inst 25,001-50,000 SF			0.01565
710	Office / Inst 50,001-100,000 SF			0.01334
710	Office / Inst over 100,000 SF			0.01137
770	Business Park			0.01276
110	Light Industrial			0.00697
150	Warehousing			0.00496
140	Manufacturing			0.00382
310	Hotel (per room)			5.63
Trip Adjustment Factors		52%		50%
	Com / Shop Ctr 25,000 SF or less		28%	
	Com / Shop Ctr 25,001-50,000 SF		31%	
	Com / Shop Ctr 50,001-100,000 SF		33%	
	Com / Shop Ctr 100,001-200,000 SF		36%	
	Com / Shop Ctr over 200,000 SF		39%	
Planned Cost Summary				
	Arterials - Ave. Trip Length (miles)	1.85	1.85	1.85
	Average Trip Length Adjustment	122%	68%	75%
	Planned Arterials - Cost Per VMT	$448.73	$448.73	$448.73
	Arterials - Cost for Ave. Length Trip	**$1,010.05**	**$562.98**	**$620.93**
	Collectors - Ave. Trip Length (miles)	0.23	0.23	0.23
	Average Trip Length Adjustment	122%	68%	75%
	Collectors- Cost Per VMT	$443.64	$443.64	$443.64
	Collectors - Cost for Ave. Length Trip	**$121.78**	**$67.88**	**$74.86**
	Support Facilities Cost Per Trip	**$5.33**	**$5.33**	**$5.33**
	Support Vehicle/Equip Cost Per Trip	**$41.36**	**$41.36**	**$41.36**
	Development Fee Study Cost Per Trip	**$0.66**	**$0.66**	**$0.66**
	Net Capital Cost Per Trip	**$1,179.17**	**$678.20**	**$743.14**

The input variables listed above are used to derive the development fees shown in Figure 91 below. The development fees are the product of the trip generation rates multiplied by the trip adjustment factors multiplied by the net capital cost per trip. For example, the Transportation Development Fee for a single-family detached house is 9.57 multiplied by 0.52 multiplied by $1,179.17, which equals $5,872 per unit.

Figure 91: Transportation Development Fee Schedule

Development Fees	Residential	Commercial / Shopping Ctrs	Other Nonres
Residential (per housing unit)			
210 Single Family Detached	$5,872		
220 Multi-family	$3,595		
240 All Other Types of Housing	$3,061		
Nonresidential Per Square Foot of Floor Area/Hotel Room			
820 Commercial / Shopping Center 25,000 SF or less		$20.94	
820 Commercial / Shopping Center 25,001-50,000 SF		$18.19	
820 Commercial/Shopping Center 50,001-100,000 SF		$15.19	
820 Commercial/Shopping Center 100,001-200,000 SF		$13.00	
820 Commercial/Shopping Center over 200,000 SF		$11.05	
710 Office 10,000 SF or less			$8.41
710 Office 10,001-25,000 SF			$6.81
710 Office 25,001-50,000 SF			$5.81
710 Office 50,001-100,000 SF			$4.95
710 Office 100,000 SF			$4.22
770 Business Park			$4.74
110 Light Industrial			$2.58
150 Warehousing			$1.84
140 Manufacturing			$1.41
310 Hotel (per room)			$2,092

Implementation and Administration

As specified in the Development Fees Act, there are certain accounting requirements that must be met by the City. Monies received shall be placed in a separate fund and accounted for separately and may only be used for the purposes authorized by ARS 9-463.05. Interest earned on monies in the separate fund shall be credited to the fund.

Pursuant to ARS 9-463.05, the City will prepare an annual report that will keep government and private sector leaders informed of the performance of development fees. The report will contain basic information such as the revenue generated by each type of public facility. At the time of the annual report, suggested improvements can be acted upon and necessary updates incorporated in the adopted ordinance.

All costs in the development fee calculations are given in current dollars with no assumed inflation rate over time. Necessary cost adjustments can be made as part of the recommended annual evaluation and update of development fees. One approach is to adjust for inflation in construction costs by means of an index like the one published by Engineering News Record (ENR). This index could be applied against the calculated development fee. If cost estimates change significantly the City should redo the fee calculations.

Residential development categories are based on data from the 2000 U.S. Census Summary File 3 for Flagstaff. Specifically:

> ***Single Family Detached*** – units in structure: 1-detached and 1-attached, owner and renter occupied.
>
> ***Multi-Family*** – units in structure: 2, 3 - 4, 5 – 9, 10 – 19, 20 – 49, 50 or more, owner and renter occupied.
>
> ***All Other Housing Types*** – units in structure: mobile homes, other, owner and renter occupied.

Nonresidential development categories are based on land use classifications from the book Trip Generation (ITE, 2003). A summary description of each development category is provided below.

> ***Shopping Center*** (820) – A shopping center is an integrated group of commercial establishments that are planned, developed, owned and managed as a unit. A shopping center provides on-site parking facilities sufficient to serve its own parking demands. Shopping centers may contain non-merchandizing facilities, such as office buildings, movie theaters, restaurants, post offices, banks, health clubs and recreational facilities. In addition to the integrated unit of shops in one building or enclosed around a mall, many shopping centers include out-parcels. For smaller centers without an enclosed mall or peripheral buildings, the Gross Leasable Area (GLA) may be the same as the Gross Floor Area (GFA) of the building.
>
> ***General Office*** (710) – A general office building houses multiple tenants including, but not limited to, professional services, insurance companies, investment brokers

and tenant services such as banking, restaurants and service retail facilities. In the development fees study, this category is used as a proxy for institutional uses that may have more specific land use codes.

Business Park (770) – Business parks consist of a group of flex-type buildings served by a common roadway system. The tenant space lends itself to a variety of uses, with the rear side of the building usually served by a garage door. The tenant space includes a variety of uses with an average mix of 20 to 30 percent office/commercial and 70 to 80 percent industrial/warehousing.

Light Industrial (110) – Light industrial facilities usually employ fewer than 500 persons and have an emphasis on activities other than manufacturing. Typical light industrial activities include, but are not limited to printing plants, material-testing laboratories and assembling of data processing equipment.

Warehousing (150) – Warehouses are primarily devoted to the storage of materials.

Manufacturing (140) – In manufacturing facilities, the primary activity is the conversion of raw materials or parts into finished products.

Hotel (320) - A place of lodging that provides sleeping accommodations and often a restaurant. They offer free on-site parking and provide little or no meeting space and few (if any) supporting facilities.

For development types not shown above, Flagstaff staff may use the most appropriate rates from the ITE manual or rates from approved local transportation studies or observed data.

Appendix A: Demographic Estimates and Development Projections

As specified in Task 1 of our Work Scope, TischlerBise has prepared documentation on current demographic *estimates* and development *projections* that will be used in the development fee study. The demographic data estimates are for the current year and are used in calculating the current LOS. The development projections are used primarily for the purpose of having an understanding of future LOS, development fee revenues, and capital expenditures. Our recommended approach is to forecast housing units and employment (by place of work) and then derive all other demand factors from these key demand indicators.

A note on rounding: Calculations throughout this report are based on analysis conducted using Excel software. Results are discussed in the report using one-and two-digit places (in most cases), which represent rounded figures. However, the analysis itself uses figures carried to their ultimate decimal places; therefore the sums and products generated in the analysis may not equal the sum or product if the reader replicates the calculation with the factors shown in the report (due to the rounding of figures shown, not due to rounding in the analysis).

PERSONS PER HOUSEHOLD

A differentiation by type of housing is necessary to make residential development fees proportionate and reasonably related to the demand for public facilities. Household size is an important demographic factor that helps account for variations in service demand by type of housing. The best source of this data is the 2000 U.S. Census, Summary File 3. The data for the City of Flagstaff is shown in Figure 1 below.

Figure A-1: Estimated Household Size in Flagstaff

Units in	***Owner-Occupied***			***Renter-Occupied***			***Combined***			
Structure	Persons	Hsehlds	PPH	Persons	Hsehlds	PPH	Persons	Hsehlds	PPH	Hsg Units
1-Detached	20,414	7091	2.88	5,716	2,016	2.84	26,130	9,107	2.87	9,888
1-Attached	1,913	813	2.35	1,489	559	2.66	3,402	1,372	2.48	1,720
Two	121	52	2.33	2,124	705	3.01	2,245	757	2.97	811
3-4	143	75	1.91	3,196	1,375	2.32	3,339	1,450	2.30	1,534
5-9	161	103	1.56	3,631	1,673	2.17	3,792	1,776	2.14	2,039
10-19	39	16	2.44	2,820	1,361	2.07	2,859	1,377	2.08	1,645
20-49	0	0	0.00	1,351	658	2.05	1,351	658	2.05	703
50 or more	0	0	0.00	2,773	1,294	2.14	2,773	1,294	2.14	1,360
Mobile Homes	3,010	1150	2.62	1,289	405	3.18	4,299	1,555	2.76	1,702
Other	76	28	2.71	0	0	0.00	76	28	2.71	28
Total	25,877	9,328	2.77	24,389	10,046	2.43	50,266	19,374	2.59	21,430
								Vacant HU		2,056
								Vacancy Rate		9.6%

Source: 2000 US Census data from Summary File 3

Persons Per Household by Type in 2000

	Persons	Hsehlds	PPH	Hhld Mix
Single Family Detached*	26,130	9,107	2.87	47.0%
Multi-family**	19,761	8,684	2.28	44.8%
All Other Types of Housing***	4,375	1,583	2.76	8.2%
Total Less Group Quarters	50,266	19,374	2.59	100.00%
Group Quarters****	5,762			
TOTAL SUMMARY FILE 3 COUNT	56,028			
100 % POPULATION COUNT	55,785			

* 1-Detached; Owner-Occupied and Renter-Occupied.

** 1-Attached, Two, 3-4, 5-9, 10-19, 20-49, 50 or more; Owner-Occupied and Renter-Occupied

*** Mobile Homes, Other; Owner-Occupied and Renter-Occupied.

**** Revised by Arizona Department of Economic Security due to US Census undercount.

HOUSING UNIT ESTIMATES AND PROJECTIONS

The total number of housing units (both occupied and vacant units) in the City is estimated to be 24,447. Of these 24,447 units, single family detached units total 11,578 units. There were also 11,139 multi-family units and 1,730 housing units in the category of "All Other Types of Housing" (the majority of these units are mobile homes). These estimates are based on the number of housing units at the time of 2000 Census and subsequent residential building permit activity through the end of 2005. This is shown in Figure 2 below.

Figure A-2: Residential Building Permit Activity FY2000-FY2006

	2000 Census	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*Total Units 2005*	*Distribution of Housing Units 2000-2005*
Single Family Detached	9,888	212	307	282	308	300	281	11,578	56%
Multi-family	9,812	133	176	214	425	26	353	11,139	44%
All Other Types of Housing (includes mobile homes)	1,730	0	0	0	0	0	0	1,730	0%
TOTAL HOUSING UNITS	21,430	345	483	496	733	326	634	24,447	100%

Source: City of Flagstaff, Department of Community Development.

TischlerBise prepared housing unit projection alternatives shown in Figure 3 for 2007-2026. Using the building permit data from Figure 2, TischlerBise produced four different housing unit projections utilizing different projection methodologies: exponential, linear, logarithmic curve, and linear trend extrapolation. TischlerBise recommends the exponential methodology based on past building permit activity and increasing pace of growth.

Figure A-3: Housing Unit Projections

												5 Year Increments				
Annual Change (a)	Base Value (b)	Method	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2016	2021	2026	Average Annual Increase
									projection years (x) =>								
									1	2	3	4	5	10	15	20	
2.3%	24,447	Exponential*	21,775	22,258	22,754	23,487	23,813	24,447	25,009	25,584	26,173	26,775	27,391	30,689	34,384	38,525	704
2.5%	24,447	Linear	21,775	22,258	22,754	23,487	23,813	24,447	25,058	25,669	26,281	26,892	27,503	30,559	33,615	36,671	611
2.0%	24,447	Logarithmic	21,775	22,258	22,754	23,487	23,813	24,447	24,791	24,992	25,135	25,245	25,336	25,637	25,823	25,957	76
1.8%	24,447	Linear Trend Extrap	21,775	22,258	22,754	23,487	23,813	24,447	24,965	25,501	26,037	26,573	27,109	29,788	32,468	35,148	535

Past Building Permit Activity						Additional Annual Units under recommended methodology							
345	483	496	733	326	634	562	575	588	602	616	690	773	866

* Recommended Methodology.

TischlerBise used the distribution of recent residential building permits from Figure 2 to project the type of new housing units in Figure 3. Single family detached units are projected to total 56% of new housing units with multi-family comprising the remaining 44%. Future housing units by type are projected in Figure 4 below.

Figure A-4: Housing Unit Projections by Type

	*New Housing Distribution**		*2007*	*2008*	*2009*	*2010*	*5 Year Increments 2011*	*2016*	*2021*	*2026*	*TOTAL*
Single Family Detached	56%		315	322	330	337	345	386	433	485	7,886
Multi-family	44%		247	253	259	265	271	303	340	381	6,192
All Other Types of Housing (includes mobile homes)	0%		0	0	0	0	0	0	0	0	0
TOTAL NEW HOUSING UNITS**			562	575	588	602	616	690	773	866	14,078
TOTAL HOUSING UNITS		24,447	25,009	25,584	26,173	26,775	27,391	30,689	34,384	38,525	52,602

* Taken from Figure 2.
** Taken from Figure 3.

POPULATION ESTIMATE & PROJECTIONS

TischlerBise has prepared two sets of population estimates and projections for Flagstaff. The first set of estimates and projections is for the year round population in the City. These figures are used

for projecting the number of jobs in Flagstaff (this is discussed in further detail below). Flagstaff has a large number of homes for seasonal use. The second set of estimates and projections is for the seasonal or "peak" population in the City. *A peak population figure should be used in the development fee calculations since it is this peak population to which the City must provide and plan services.*

Year Round Population Estimate & Projections

The first step in determining the year round population is calculating the number of households (occupied housing units). The occupancy rates from the 2000 Census for each category of housing units are shown in Figure 5.

Figure A-5: Year Round Occupancy Analysis 2000 Census

	*Households**	*Total Units**	*Occupancy Rate*
Single Family Detached	9,107	9,888	92.1%
Multi-family	8,684	9,812	88.5%
All Other Types of Housing (includes mobile homes)	1,583	1,730	91.5%
TOTAL	19,374	21,430	90.4%

* 2000 US Census data from Summary File 3

The year round occupancy rates from the 2000 Census data is applied against recent residential building permit data from Figure 2 to determine the current estimate of year round households. This is shown in Figure 6 below.

Figure A-6: Year Round Households

	2000 Census	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*Total 2005*
Single Family Detached	9,107	195	283	260	284	276	259	10,664
Multi-family	8,684	118	156	189	376	23	312	9,858
All Other Types of Housing (includes mobile homes)	1,583	0	0	0	0	0	0	1,583
TOTAL YEAR ROUND HOUSEHOLDS	19,374	313	439	449	660	299	571	22,105

The current year round population is estimated to be 62,280 persons. This is calculated by multiplying the current number of year round households for each type of housing unit by the corresponding number of persons per household from Figure 1. The number of Northern Arizona University students in campus housing is added to the number of persons in households.

Figure A-7: Year Round Population Estimate

	*Total 2005**		*Persons Per Household***		*Peak Population*
Single Family Detached	10,664	x	2.87	=	30,596
Multi-family	9,858	x	2.28	=	22,434
All Other Types of Housing (includes mobile homes)	1,583	x	2.76	=	4,375
TOTAL YEAR ROUND POPULATION IN HOUSEHOLDS	22,105				57,405
NORTHERN ARIZONA UNIVERSITY STUDENTS IN CAMPUS HOUSING***					4,875
TOTAL YEAR ROUND POPULATION					62,280

* From Figure 6.
** From Figure 1.
*** City of Flagstaff, Department of Community Development.

For future year round population projections, TischlerBise multiplied the projected number of new housing units by type by their corresponding year round occupancy rates to determine the projected number of year round households. These figures are then multiplied by the number of persons per household from Figure 1 for each category of housing. The number of persons in Group Quarters (students in campus housing at NAU) is held constant. These figures are added to the current year round population estimate to determine the year round population projections.

Figure A-8: Year Round Population Projections

						5 Year Increments				
	*Year Round Occupancy Rate**	*2007*	*2008*	*2009*	*2010*	*2011*	*2016*	*2021*	*2026*	*TOTAL*
Single Family Detached	92.1%	290	297	304	311	318	356	399	447	7,263
Multi-family	88.5%	219	224	229	234	240	269	301	337	5,480
All Other Types of Housing (includes mobile homes)	91.5%	0	0	0	0	0	0	0	0	0
TOTAL NEW HOUSEHOLDS		509	521	533	545	557	625	700	784	12,743
TOTAL PEAK HOUSEHOLDS	24,447	24,956	25,477	26,009	26,554	27,112	30,097	33,442	37,190	49,933

YEAR ROUND POPUALTION PROJECTIONS						*5 Year Increments*				
	*Persons Per Household***	*2007*	*2008*	*2009*	*2010*	*2011*	*2016*	*2021*	*2026*	*TOTAL*
Single Family Detached	2.87	832	851	871	891	912	1,021	1,144	1,282	20,839
Multi-family	2.28	498	510	521	533	546	611	685	767	12,470
All Other Types of Housing (includes mobile homes)	2.76	0	0	0	0	0	0	0	0	0
TOTAL NEW POPULATION IN HOUSEHOLDS		1,330	1,361	1,392	1,424	1,457	1,633	1,829	2,049	33,309
TOTAL YEAR ROUND IN HOUSEHOLDS***	57,405	58,735	60,096	61,488	62,913	64,370	72,174	80,917	90,714	
Population in Group Quarters***	4,875	4,875	4,875	4,875	4,875	4,875	4,875	4,875	4,875	
TOTAL YEAR ROUND POPULATION	62,280	63,610	64,971	66,363	67,788	69,245	77,049	85,792	95,589	95,589

* From 2000 Census.
** From Figure 1.
*** Population in Group Quarters held constant.

PEAK POPULATION ESTIMATE & PROJECTIONS

The first step in determining the current peak population estimates is calculating a "peak occupancy rate" using data from the 2000 Census for "seasonal, recreational, or occasional use" units. The

peak occupancy rate is used to determine the number of "peak households" (occupied housing units during peak periods). This is shown in Figure 9 below.

Figure A-9: Peak Occupancy Analysis 2000 Census

	*Households**	*Vacant Units**	*Distribution of Vacant Units*	*Estimated Distribution of Seasonal, Recreational or Occassional Use*	*Occassional Use*	*Peak Households*
Single Family Detached	9,107	781	38%		403	9,510
Multi-family	8,684	1,128	55%		583	9,267
All Other Types of Housing (includes mobile homes)	1,583	147	7%		76	1,659
TOTAL	19,374	2,056	100%	1,062	1,062	20,436
	Occupancy Rate =>	90.4%		Peak Occupancy Rate =>		95.4%

* 2000 US Census data from Summary File 3

The peak occupancy rate of 95.4% from the 2000 Census data is applied against recent residential building permit data from Figure 2 to determine the current estimate of peak households. This is shown in Figure 10 below.

Figure A-10: Peak Households

	2000 Census	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*Total 2005*	*Peak Occupancy Rate*
Single Family Detached	9,510	202	293	269	294	286	268	11,122	96.1%
Multi-family	9,267	127	168	204	405	25	337	10,532	94.6%
All Other Types of Housing (includes mobile homes)	1,659	0	0	0	0	0	0	1,659	95.9%
TOTAL HOUSEHOLDS	20,436	329	461	473	699	311	605	23,313	95.4%

The current peak population is estimated to be 65,338 persons. This is calculated by multiplying the current number of peak households for each type of housing unit by the corresponding number of persons per household from Figure 1. The number of Northern Arizona University students in campus housing is added to the number of persons in households. TischlerBise's population estimate is higher than the Arizona Department of Economic Security estimate (61,185 persons) which does not include a seasonal population component in their population estimates.

Figure A-11: Peak Population Estimate

	*Total 2005**		*Persons Per Household***		*Peak Population*
Single Family Detached	11,122	x	2.87	=	31,912
Multi-family	10,532	x	2.28	=	23,966
All Other Types of Housing (includes mobile homes)	1,659	x	2.76	=	4,585
TOTAL PEAK POPULATION IN HOUSEHOLDS	23,313				60,463
NORTHERN ARIZONA UNIVERSITY STUDENTS IN CAMPUS HOUSING***					4,875
TOTAL PEAK POPULATION					65,338

* From Figure 6.
** From Figure 1.
*** City of Flagstaff, Department of Community Development.

For future peak population projections, TischlerBise multiplied the projected number of new housing units by type by their corresponding peak occupancy rates to determine the projected

number of peak households. These figures are then multiplied by the number of persons per household from Figure 1 for each category of housing. The number of persons in Group Quarters (students in campus housing at NAU) is held constant. These figures are added to the current peak population estimate to determine the peak population projections.

Figure A-12: Peak Population Projections

							5 Year Increments				
	*Peak Occupancy Rate**		*2007*	*2008*	*2009*	*2010*	*2011*	*2016*	*2021*	*2026*	*TOTAL*
Single Family Detached	96.1%		303	310	317	324	331	371	416	466	7,575
Multi-family	94.6%		234	239	245	250	256	287	321	360	5,855
All Other Types of Housing (includes mobile homes)	95.9%		0	0	0	0	0	0	0	0	0
TOTAL NEW HOUSEHOLDS			536	549	561	574	587	658	737	826	13,430
TOTAL PEAK HOUSEHOLDS		23,313	23,849	24,398	24,960	25,534	26,121	29,268	32,793	36,743	50,172

PEAK POPUALTION PROJECTIONS

							5 Year Increments				
	*Persons Per Household***		*2007*	*2008*	*2009*	*2010*	*2011*	*2016*	*2021*	*2026*	*TOTAL*
Single Family Detached	2.87		868	888	909	929	951	1,065	1,194	1,337	21,735
Multi-family	2.28		532	544	557	570	583	653	732	820	13,322
All Other Types of Housing (includes mobile homes)	2.76		0	0	0	0	0	0	0	0	0
TOTAL NEW POPULATION IN HOUSEHOLDS			1,400	1,432	1,465	1,499	1,534	1,718	1,925	2,157	35,057
TOTAL PEAK POPULATION IN HOUSEHOLDS***		60,463	61,863	63,296	64,761	66,260	67,794	76,007	85,210	95,520	
Population in Group Quarters***		4,875	4,875	4,875	4,875	4,875	4,875	4,875	4,875	4,875	
TOTAL PEAK POPULATION		65,338	66,738	68,171	69,636	71,135	72,669	80,882	90,085	100,395	100,395

* From Figure 6.
** From Figure 1.
*** Population in Group Quarters held constant.

NONRESIDENTIAL MULTIPLIERS

In addition to data on residential development, the calculation of development fees requires data on nonresidential construction in Flagstaff. To convert employment projections to gross floor area of nonresidential development, average square feet per employee multipliers are used. The multipliers shown in Figure 13 are derived from national data published by the Institute of Transportation Engineers (ITE) and the Urban Land Institute (ULI).

These multipliers are also used to calculate the number of average weekday vehicle trips from nonresidential development in Flagstaff.

Figure A-13: Floor Area per Employee and Nonresidential Trip Rates

ITE Code	*Land Use / Size*	*Demand Unit*	*Wkdy Trip Ends Per Dmd Unit**	*Wkdy Trip Ends Per Employee**	*Emp Per Dmd Unit***	*Sq Ft Per Emp*
Commercial / Shopping Center						
820	25K gross leasable area	1,000 Sq Ft	110.32	na	3.33	300
820	50K gross leasable area	1,000 Sq Ft	86.56	na	2.86	350
820	100K gross leasable area	1,000 Sq Ft	67.91	na	2.50	400
820	200K gross leasable area	1,000 Sq Ft	53.28	na	2.22	450
820	400K gross leasable area	1,000 Sq Ft	41.80	na	2.00	500
General Office						
710	10K gross floor area	1,000 Sq Ft	22.66	5.06	4.48	223
710	25K gross floor area	1,000 Sq Ft	18.35	4.43	4.15	241
710	50K gross floor area	1,000 Sq Ft	15.65	4.00	3.91	256
710	100K gross floor area	1,000 Sq Ft	13.34	3.61	3.69	271
Industrial						
770	Business Park***	1,000 Sq Ft	12.76	4.04	3.16	317
151	Mini-Warehouse	1,000 Sq Ft	2.50	56.28	0.04	22,512
150	Warehousing	1,000 Sq Ft	4.96	3.89	1.28	784
140	Manufacturing	1,000 Sq Ft	3.82	2.13	1.79	558
110	Light Industrial	1,000 Sq Ft	6.97	3.02	2.31	433
Other Nonresidential						
720	Medical-Dental Office	1,000 Sq Ft	36.13	8.91	4.05	247
620	Nursing Home	bed	2.37	6.55	0.36	na
610	Hospital	1,000 Sq Ft	17.57	5.20	3.38	296
565	Day Care	student	4.48	28.13	0.16	na
530	High School	student	1.71	19.74	0.09	na
520	Elementary School	student	1.29	15.71	0.08	na
520	Elementary School	1,000 Sq Ft	14.49	15.71	0.92	1,084
320	Lodging	room	5.63	12.81	0.44	na

* Trip Generation, Institute of Transportation Engineers, 2003.

** Employees per demand unit calculated from trip rates, except for Shopping Center data, which are derived from Development Handbook and Dollars and Cents of Shopping Centers, published by the Urban Land Institute.

*** According to ITE, a Business Park is a group of flex-type buildings served by a common roadway system. The tenant space includes a variety of uses with an average mix of 20-30% office/commercial and 70-80% industrial/warehousing.

The square feet per employee multipliers shown in the last column on the right of Figure 13 are used to convert employment projections into thousands of square feet (KSF) of nonresidential floor area. A prototypical office development is typically located in a building of approximately 25,000 square feet. This size office building has an average of 241 square feet per employee. For retail jobs, a prototype development is a building or shopping center of approximately 50,000 square feet. A commercial development of this size will have approximately 350 square feet per employee. For industrial/flex jobs, the business park category of 317 square feet per job is used.

JOB & NONRESIDENTIAL SQUARE FOOTAGE ESTIMATES

The most recent estimate of jobs for each major category of nonresidential development in Flagstaff is shown in Figure 14 below from ESRI, Inc. The estimated 36,722 jobs are multiplied by the employment density multipliers in the far right column of Figure 13 to convert the number of jobs for each category into nonresidential square footage. TischlerBise estimates there are 13,658,000 square feet of nonresidential development in Flagstaff.

Figure A-14: Job and Nonresidential Square Footage Estimates

Commercial/Retail	*Jobs*	*%*	*SF/ Job*	*Nonres SF (Rounded)*
Home Improvement	621			
General Merchandise Stores	923			
Food Stores	1,096			
Auto Dealers, Gas Stations, Auto Aftermarket	877			
Apparel & Accessory Stores	266			
Furniture & Home Furnishings	350			
Eating & Drinking Places	3,900			
Miscellaneous Retail	1,592			
Hotels & Lodging	1,382			
Automotive Services	649			
Motion Pictures & Amusements	981			
Other Services	4,328			
Commercial/Retail Subtotal	16,965	46%	350	5,938,000
Office/Institutional				
Banks, Savings & Lending Institutions	360		241	87,000
Securities Brokers	44		241	11,000
Insurance Carriers & Agents	331		241	80,000
Real Estate, Holding, Other Investment Offices	808		241	195,000
Health Services	4,673		241	1,126,000
Legal Services	257		241	62,000
Education Institutions & Libraries	3,947		1,084	4,279,000
Government	3,650		173	631,000
Office/Institutional Subtotal	14,070	38%	460	6,471,000
Industrial/Flex				
Agriculture & Mining	351			
Construction	2,249			
Manufacturing	1,118		558	624,000
Transportation	660		317	209,000
Communication	185		317	59,000
Electric, Gas, Water, Sanitary Services	12		317	4,000
Wholesale Trade	1,112		317	353,000
Industrial/Flex Subtotal	5,687	15%	220	1,249,000
Totals	36,722			13,658,000

Source: ESRI.

JOB & NONRESIDENTIAL SQUARE FOOTAGE PROJECTIONS

Figure 15 lists the projected number and type of jobs as well and projected nonresidential square footage over the next twenty years.

To project the total number of jobs, TischlerBise used the current job to year round population ratio of .59 (36,722 jobs/62,280 year round population = .59) and held this ratio constant. This ratio is multiplied by the year round population projections in Figure 8 to project the total number of jobs. TischlerBise included an additional 800 jobs associated with the expansion of the mall. This is shown at the top of Figure 15 below.

The projected number of jobs is then allocated among the broad categories of commercial/retail, office/institutional, and industrial/flex. To project the future distribution of jobs, TischlerBise multiplied the projected number of total jobs by the current job distribution percentages from Figure 14. The future allocation of jobs is estimated to be 46% commercial/retail, 38% office/institutional and 15% industrial/flex. TischlerBise also added the 800 additional jobs at the mall to the commercial/retail category.

Using the employment density multipliers from Figure 13, the projected number and type of future jobs are converted into nonresidential square footage. This is shown at the bottom of Figure 15.

Figure A-15: Job and Nonresidential Square Footage Projections

Current Job Estimate	36,722
Current Year Round Population Estimate	62,280
Job to Population Ratio	0.59

PROJECTED JOBS

						5 Year Increments			
	2006	*2007*	*2008*	*2009*	*2010*	*2011*	*2016*	*2021*	*2026*
Year Round Population*	62,280	63,610	64,971	66,363	67,788	69,245	77,049	85,792	95,589
Job to Population Ratio	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
SUBTOTAL PROJECTED JOBS	36,722	37,506	38,309	39,130	39,970	40,829	45,430	50,586	56,362
Plus 800 Jobs Associated with Mall Expansion		800	800	800	800	800	800	800	800
TOTAL PROJECTED JOBS	36,722	38,306	39,109	39,930	40,770	41,629	46,230	51,386	57,162

PROJECTED JOBS BY TYPE

	*Job Distribution***	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2016*	*2021*	*2026*
Commercial/Retail	46%	16,965	18,127	18,498	18,877	19,265	19,662	21,788	24,170	26,838
Office/Institutional	38%	14,070	14,371	14,678	14,993	15,314	15,644	17,407	19,382	21,595
Industrial/Flex	15%	5,687	5,808	5,933	6,060	6,190	6,323	7,036	7,834	8,729
TOTAL JOBS BY TYPE		36,722	38,306	39,109	39,930	40,770	41,629	46,230	51,386	57,162

PROJECTED NONRESIDENTIAL SQUARE FOOTAGE BY TYPE (1,000's)

	*Square Feet/ Job****	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2016*	*2021*	*2026*
Commercial/Retail	350	5,938	6,345	6,475	6,607	6,743	6,882	7,626	8,460	9,394
Office/Institutional	241	6,471	6,543	6,618	6,693	6,771	6,850	7,275	7,751	8,285
Industrial/Flex	317	1,249	1,288	1,327	1,367	1,408	1,451	1,677	1,930	2,213
TOTAL NONRESIDENTIAL SQUARE FOOTAGE		13,658	14,176	14,419	14,668	14,922	15,183	16,578	18,140	19,891

* From Figure 8.
** From Figure 14.
*** From Figure 13.

AVERAGE DAILY VEHICLE TRIP ESTIMATES

Figure 16 below provide a summary of the residential and nonresidential vehicle trip calculations used in this analysis.

Average Weekday Vehicle Trip Ends are from the reference book, Trip Generation, published by the Institute of Transportation Engineers (ITE), in 2003. A "trip end" represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). Trip rates have been adjusted to avoid over estimating the number of actual trips because one vehicle trip is counted in the trip rates of both the origination and destination points. A simple factor of 50% has been applied to the residential, government/institutional, office and goods production categories. The commercial category has a trip factor of less than 50% because this type of development attracts vehicles as they pass-by on arterial and collector roads. For example, when someone stops at a convenience store on their way home from work, the convenience store is not their primary destination. The ITE Manual indicates that on average 38% of the vehicles entering shopping centers are passing by on the way to some other primary destination and 62% of the attraction trips has the shopping center as their primary destination. Therefore, the adjusted trip factor is 31% (0.62 x 0.50).

There is an average of 319,032 vehicle trips generated by existing development in Flagstaff on an average weekday. As the table below indicates, residential development generates 92,354 vehicle trips compared to 226,678 vehicle trips generated by nonresidential development.

Figure A-16: Average Daily Trips from Development within Flagstaff

Residential Vehicle Trips on an Average Weekday

Residential Units	Assumptions	
Single Family Detached	11,578	
Multi-family	11,139	
All Other Types of Housing	1,730	
Average Weekday Vehicle Trip Ends per Unit	Trip Rate	Trip Factor
Single Family Detached	9.57	50%
Multi-family	5.86	50%
All Other Types of Housing	4.99	50%
Residential Vehicle Trip Ends of an Average Weekday		
Single Family Detached	55,401	
Multi-family	32,637	
All Other Types of Housing	4,316	
Total Residential Trips	**92,354**	

Nonresidential Vehicle Trips on an Average Weekday

Nonresidential Gross Floor Area (1,000 sq. ft.)*	Assumptions	
Commercial/Retail	5,938	
Office/Institutional	6,471	
Industrial/Flex	1,249	
Average Weekday Vehicle Trips Ends per 1,000 Sq. Ft.*	Trip Rate	Trip Factor
Commercial/Retail	86.56	31%
Office/Institutional	18.35	50%
Industrial/Flex	12.76	50%
Nonresidential Vehicle Trips on an Average Weekday		
Commercial/Retail	159,338	
Office/Institutional	59,371	
Industrial/Flex	7,969	
Total Nonresidential Trips	**226,678**	
TOTAL TRIPS	**319,032**	

*Floor area estimates were derived using sq. ft. per empolyee factors from ULI and ITE
**Trip rates are from the Institute of Transportation Engineers(ITE) Trip Generation Manual (2003)

SUMMARY OF DEVELOPMENT PROJECTIONS 2007-2017

Annual demographic and development projections for the development fee study are summarized in Figure 17 below. The 2006 demographic estimates will be used to derive current levels-of-service (LOS). The development *projections* are used primarily for the purpose of having an understanding of the future LOS, pace of service demands, and cash flows resulting from revenues and expenditures associated with those service demands.

Flagstaff is projected to add approximately 624 housing units and 1,554 persons during peak times per year over the next ten years. From 2007 to 2017, TischlerBise projects an average annual increase in employment of 951 jobs and approximately 292,000 square feet of nonresidential floor area per year. However, actual nonresidential construction is often built in irregular intervals compared to residential development, with minor construction followed by large-scale projects.

Figure A-17: Development Projections 2007-2017

	Year=>	1	2	3	4	5	6	7	8	9	10		Avg.
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**Total Increase**	**Annual Increase**
DEMAND PROJECTIONS (cumulative)													
PEAK POPULATION	65,338	66,738	68,171	69,636	71,135	72,669	74,237	75,842	77,484	79,164	80,882	**15,544**	**1,554**
HOUSING UNITS	24,447	25,009	25,584	26,173	26,775	27,391	28,021	28,665	29,325	29,999	30,689	**6,242**	**624**
PEAK HOUSEHOLDS	23,313	23,849	24,398	24,960	25,534	26,121	26,722	27,337	27,966	28,609	29,268	**5,955**	**595**
JOBS	36,722	38,306	39,109	39,930	40,770	41,629	42,508	43,407	44,327	45,268	46,230	**9,508**	**951**
PEAK POPULATION & JOBS	102,060	105,045	107,280	109,566	111,905	114,298	116,745	119,249	121,811	124,432	127,112	**25,052**	**2,505**
TOTAL TRIPS	319,032	333,091	339,788	346,638	353,646	360,815	368,148	375,651	383,326	391,178	399,210	**80,178**	**8,018**
Residential Units:													
Single Family Detached	11,578	11,893	12,215	12,545	12,882	13,227	13,580	13,941	14,310	14,688	15,074	**3,496**	**350**
Multi-Family	11,139	11,386	11,639	11,898	12,163	12,434	12,711	12,994	13,284	13,581	13,884	**2,745**	**275**
All Other Types of Housing (inc. mobile homes)	1,730	1,730	1,730	1,730	1,730	1,730	1,730	1,730	1,730	1,730	1,730	**0**	**0**
Nres Floor Area (1,000's):													
Commercial/Retail KSF	5,938	6,345	6,475	6,607	6,743	6,882	7,024	7,170	7,318	7,470	7,626	**1,688**	**169**
Office/Institutional KSF	6,471	6,543	6,618	6,693	6,771	6,850	6,931	7,014	7,099	7,186	7,275	**804**	**80**
Industrial/Flex KSF	1,249	1,288	1,327	1,367	1,408	1,451	1,494	1,538	1,583	1,629	1,677	**428**	**43**
Employment By Type													
Commercial/Retail	16,965	18,127	18,498	18,877	19,265	19,662	20,068	20,484	20,909	21,343	21,788	**4,823**	**482**
Office/Institutional	14,070	14,371	14,678	14,993	15,314	15,644	15,980	16,325	16,677	17,038	17,407	**3,337**	**334**
Industrial/Flex	5,687	5,808	5,933	6,060	6,190	6,323	6,459	6,598	6,741	6,887	7,036	**1,349**	**135**
Residential Trips													
Single Family Detached	55,401	56,908	58,450	60,027	61,640	63,291	64,980	66,707	68,474	70,282	72,131	**16,731**	**1,673**
Multi-Family	32,637	33,362	34,103	34,862	35,637	36,431	37,243	38,073	38,923	39,792	40,681	**8,044**	**804**
All Other Types of Housing (inc. mobile homes)	4,316	4,316	4,316	4,316	4,316	4,316	4,316	4,316	4,316	4,316	4,316	**0**	**0**
Nonresidential Trips													
Commercial/Retail	159,338	170,255	173,737	177,299	180,943	184,670	188,484	192,385	196,376	200,459	204,635	**45,297**	**4,530**
Office/Institutional	59,371	60,036	60,716	61,411	62,123	62,851	63,595	64,357	65,136	65,934	66,749	**7,378**	**738**
Industrial/Flex	7,969	8,214	8,466	8,723	8,986	9,255	9,530	9,812	10,100	10,395	10,696	**2,728**	**273**

Appendix B: Cash Flow Analysis

This cash flow analysis is based on the listed development fees, costs per demand unit, and methodologies in the City's development fee report and demographic and development projections in Appendix A of the development fee report. FY2007 (beginning July 1, 2006) is the first projection year (note: all figures are in thousands of dollars).

This cash flow analysis is based on several assumptions:

- 100% of all future residential and nonresidential development will pay 100% of the listed development fees.

- Future development will occur at the pace and magnitude outlined in the demographic and development projects in Appendix A of the development fee report.

To the extent these assumptions change, the cash flow analysis will change correspondingly. Also, the cash flow analysis is based on the listed fees and LOS over a six-year time frame. TischlerBise recommends that rapidly growing communities review and recalibrate their fees every three years. Thus, it is likely the fee amounts, LOS, and methodologies will change over the course of the six year cash flow analysis.

LIBRARY CASH FLOW ANALYSIS

The cash flow summary below indicates potential revenues totaling $2.9 million over the next 6 years. These revenues will allow the City to extend to new residential development the current LOS being provided to existing development. The expenditures shown in the table below indicate the projected infrastructure needed to maintain the current LOS. It is important to note that the City can only use these revenues for capacity expansions and may not use them to replace or maintain its current library infrastructure and assets.

The small surpluses shown at the bottom of the table are the result of the vacancy rates built into the residential development projections.

Figure B-1: Library Development Fee Cash Flow Analysis

LIBRARY

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Development Fee Revenues ($1,000's)							
Single Family Detached	$282	$289	$295	$302	$309	$316	$1,795
Multi-family	$176	$180	$184	$188	$193	$197	$1,118
All Other Types of Housing	$0	$0	$0	$0	$0	$0	$0
TOTAL REVENUES	**$458**	**$469**	**$480**	**$491**	**$502**	**$513**	**$2,912**

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Capital Expendtiures Related to New Development ($1,000's)							
Land for Facilities	$11	$11	$12	$12	$12	$12	$70
Facilities	$221	$226	$232	$237	$242	$248	$1,406
Collections	$192	$197	$201	$206	$211	$215	$1,222
Support Vehicles	$11	$11	$12	$12	$12	$13	$71
Development Fee Study	$2	$2	$2	$2	$2	$2	$11
TOTAL EXPENDITURES	**$437**	**$448**	**$458**	**$468**	**$479**	**$490**	**$2,781**
Annual Surplus/(Deficit)	**$21**	**$21**	**$22**	**$22**	**$23**	**$23**	
Cumulative Surplus/(Deficit)	**$21**	**$42**	**$64**	**$86**	**$108**	**$132**	

PARKS AND RECREATION CASH FLOW ANALYSIS

The cash flow summary below indicates potential revenues totaling $18.2 million over the next six years. These revenues will allow the City to extend to new residential development the current LOS being provided to existing development. The expenditures shown in the table below indicate the projected infrastructure needed to maintain the current LOS. It is important to note that the City can only use these revenues for capacity expansions and may not use them to replace or maintain its current parks and recreation infrastructure and assets.

The reason for the deficits is the credits given for future principal payments for debt service related to parks and recreation.

Figure B-2: Parks and Recreation Development Fee Cash Flow Analysis

PARKS & RECREATION

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Development Fee Revenues ($1,000's)							
Single Family Detached	$1,761	$1,801	$1,843	$1,885	$1,928	$1,973	$11,190
Multi-family	$1,096	$1,122	$1,147	$1,174	$1,201	$1,228	$6,969
All Other Types of Housing	$0	$0	$0	$0	$0	$0	$0
TOTAL REVENUES	**$2,857**	**$2,923**	**$2,990**	**$3,059**	**$3,129**	**$3,201**	**$18,159**

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Capital Expendtiures Related to New Development ($1,000's)							
Neighborhood Parkland	$287	$294	$300	$307	$314	$322	$1,825
Neighborhood Park Improvements	$26	$27	$28	$28	$29	$30	$168
Community Parkland	$665	$680	$695	$711	$728	$745	$4,224
Community Park Improvements	$103	$105	$107	$110	$112	$115	$653
Regional Parkland	$1,423	$1,456	$1,489	$1,523	$1,558	$1,594	$9,044
Regional Park Improvements	$105	$107	$110	$112	$115	$117	$665
Recreation Facilities	$310	$317	$325	$332	$340	$347	$1,971
Support Facilities	$13	$13	$14	$14	$14	$15	$83
Support Vehicles & Equipment	$35	$35	$36	$37	$38	$39	$219
Development Fee Study	$3	$3	$3	$3	$3	$3	$16
TOTAL EXPENDITURES	**$2,968**	**$3,037**	**$3,107**	**$3,178**	**$3,251**	**$3,326**	**$18,867**

Annual Surplus/(Deficit)	**($111)**	**($114)**	**($117)**	**($119)**	**($122)**	**($125)**
Cumulative Surplus/(Deficit)	**($111)**	**($225)**	**($342)**	**($461)**	**($583)**	**($708)**

OPEN SPACE AND TRAILS CASH FLOW ANALYSIS

The cash flow summary below indicates potential revenues totaling $1.9 million over the next six years. The expenditures listed are for planned open space and trails purchases from the City's CIP that are eligible for development fee funding.

The annual deficits shown at the bottom of the table are the result of two factors. The first is the plan-based methodology. These planned projects are the result of both new and existing development. New development will pay its share via development fees. Existing development will have to pay its share with non-development fees which are indicated at the bottom of the table below. The second reason for the deficits are the credits given for future principal payments for debt service related to open space and trails.

Figure B-3: Open Space and Trails Development Fee Cash Flow Analysis

OPEN SPACE AND TRAILS

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Development Fee Revenues ($1,000's)							
Single Family Detached	$185	$189	$194	$198	$203	$207	$1,176
Multi-family	$115	$118	$121	$123	$126	$129	$732
All Other Types of Housing	$0	$0	$0	$0	$0	$0	$0
TOTAL REVENUES	**$300**	**$307**	**$314**	**$321**	**$329**	**$336**	**$1,908**

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Capital Expendtiures Related to New Development ($1,000's)							
Planned Open Space and Trails Projects	$5,023	$2,216	$885	$2,610	$660	$2,050	$13,444
Development Fee Study	$1	$1	$2	$2	$2	$2	$9
TOTAL EXPENDITURES	**$5,025**	**$2,217**	**$886**	**$2,611**	**$661**	**$2,052**	**$13,453**

Annual Surplus/(Deficit)	**($4,725)**	**($1,910)**	**($572)**	**($2,290)**	**($333)**	**($1,715)**
Cumulative Surplus/(Deficit)	**($4,725)**	**($6,635)**	**($7,207)**	**($9,497)**	**($9,829)**	**($11,544)**

POLICE CASH FLOW ANALYSIS

The cash flow summary below indicates potential revenues totaling $2.0 million over the next 6 years. These revenues will allow the City to extend to new development the current LOS being provided to existing development. The expenditures shown in the table below indicate the projected infrastructure needed to maintain the current LOS. It is important to note that the City can only use these revenues for capacity expansions and may not use them to replace or maintain its current police infrastructure and assets.

The small surpluses shown at the bottom of the table are the result of the vacancy rates built into the residential development projections.

Figure B-4: Police Development Fee Cash Flow Analysis

POLICE

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Development Fee Revenues ($1,000's)							
Single Family Detached	$82	$84	$86	$88	$90	$92	$522
Multi-family	$51	$52	$54	$55	$56	$57	$325
All Other Types of Housing	$0	$0	$0	$0	$0	$0	$0
Commercial/Retail	$362	$116	$118	$121	$124	$127	$967
Office/Institutional	$22	$23	$23	$24	$24	$25	$140
Industrial/Flex	$8	$8	$9	$9	$9	$9	$52
TOTAL REVENUES	**$526**	**$283**	**$289**	**$296**	**$303**	**$310**	**$2,006**

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Capital Expendtiures Related to New Development ($1,000's)							
Police Facilities - Residential	$99	$101	$103	$106	$108	$111	$628
Police Facilities - Nonresidential	$308	$115	$118	$120	$123	$126	$910
Animal Control Vehicles - Residential	$1	$1	$1	$1	$1	$1	$7
Police Vehicles - Residential	$22	$23	$23	$24	$24	$25	$140
Police Vehicles - Nonresidential	$69	$26	$26	$27	$28	$28	$203
Police Communications Equipment - Residential	$4	$4	$4	$4	$5	$5	$26
Police Communications Equipment - Nonresidential	$13	$5	$5	$5	$5	$5	$38
Development Fee Study - Residential	$1	$1	$1	$1	$1	$1	$7
Development Fee Study - Nonresidential	$3	$1	$1	$1	$1	$1	$8
TOTAL EXPENDITURES	**$520**	**$277**	**$283**	**$289**	**$296**	**$303**	**$1,968**

Annual Surplus/(Deficit)	**$6**	**$6**	**$6**	**$6**	**$7**	**$7**
Cumulative Surplus/(Deficit)	**$6**	**$12**	**$18**	**$25**	**$32**	**$38**

FIRE CASH FLOW ANALYSIS

The cash flow summary below indicates potential revenues totaling $2.7 million over the next six years. The fire station expenditures listed are from the City's CIP. The other components of the Fire Development Fee are calculated using the incremental expansion methodology which will allow the City to extend to new development the current LOS being provided to existing development. The expenditures shown in the table below for apparatus and communications indicate the projected infrastructure needed to maintain the current LOS. It is important to note that the City can only use these revenues for capacity expansions and may not use them to replace or maintain its current police infrastructure and assets.

The annual deficits shown at the bottom of the table are the result of two factors. The first is the plan-based methodology. These planned projects are the result of both new and existing development. New development will pay its share via development fees. Existing development will have to pay its share with non-development fees which are indicated at the bottom of the table below. Also, the planned projects will provide capacity several years into the future beyond the time period shown in the cash flow analysis.

The second reason for the deficits are the credits given for future principal payments for debt service related to the planned fire stations.

Figure B-5: Fire Development Fee Cash Flow Analysis

FIRE

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Development Fee Revenues ($1,000's)							
Single Family Detached	$140	$143	$146	$150	$153	$157	$888
Multi-family	$87	$89	$91	$93	$95	$98	$553
All Other Types of Housing	$0	$0	$0	$0	$0	$0	$0
Commercial/Retail	$384	$122	$125	$128	$131	$134	$1,025
Office	$23	$24	$24	$25	$26	$26	$149
Industrial Flex	$9	$9	$9	$9	$9	$10	$55
TOTAL REVENUES	**$643**	**$387**	**$396**	**$405**	**$415**	**$424**	**$2,671**

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Capital Expendtiures Related to New Development ($1,000's)							
Planned Fire Stations - Residential	$5,015	$1,204	$1,124	$264	$0	$0	$7,607
Planned Fire Stations - Nonresidential	$3,941	$946	$883	$207	$0	$0	$5,977
Fire Apparatus - Residential	$104	$106	$109	$111	$114	$116	$659
Fire Apparatus- Nonresidential	$198	$74	$76	$77	$79	$81	$585
Fire Communications Equipment - Residential	$1	$1	$1	$1	$1	$2	$9
Fire Communications Equipment - Nonresidential	$3	$1	$1	$1	$1	$1	$8
Development Fee Study - Residential	$2	$2	$2	$2	$2	$2	$10
Development Fee Study - Nonresidential	$2	$1	$1	$1	$1	$1	$7
TOTAL EXPENDITURES	**$9,265**	**$2,335**	**$2,196**	**$664**	**$198**	**$202**	**$14,860**

Annual Surplus/(Deficit)	**($8,622)**	**($1,947)**	**($1,800)**	**($259)**	**$217**	**$222**
Cumulative Surplus/(Deficit)	**($8,622)**	**($10,570)**	**($12,370)**	**($12,628)**	**($12,412)**	**($12,190)**

GENERAL GOVERNMENT CASH FLOW ANALYSIS

The cash flow summary below indicates potential revenues totaling $1.9 million over the next 6 years. These revenues will allow the City to extend to new development the current LOS being provided to existing development. The expenditures shown in the table below indicate the projected infrastructure needed to maintain the current LOS. It is important to note that the City can only use these revenues for capacity expansions and may not use them to replace or maintain its current general government infrastructure and assets.

The small surpluses shown at the bottom of the table are the result of the vacancy rates built into the residential development projections.

Figure B-6: General Government Development Fee Cash Flow Analysis

GENERAL GOVERNMENT

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Development Fee Revenues ($1,000's)							
Single Family Detached	$111	$114	$117	$119	$122	$125	$708
Multi-family	$69	$71	$73	$74	$76	$78	$441
All Other Types of Housing	$0	$0	$0	$0	$0	$0	$0
Commercial/Retail	$143	$46	$47	$48	$49	$50	$383
Office	$37	$38	$39	$40	$41	$41	$235
Industrial Flex	$15	$15	$16	$16	$16	$17	$95
TOTAL REVENUES	**$376**	**$284**	**$290**	**$297**	**$304**	**$311**	**$1,861**

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Capital Expendtiures Related to New Development ($1,000's)							
General Government Facilities	$345	$258	$264	$270	$276	$283	$1,696
General Government Vehicles	$20	$15	$15	$16	$16	$16	$98
Development Fee Study	$3	$2	$2	$2	$2	$3	$15
TOTAL EXPENDITURES	**$368**	**$275**	**$282**	**$288**	**$295**	**$302**	**$1,809**
Annual Surplus/(Deficit)	**$8**	**$8**	**$9**	**$9**	**$9**	**$9**	
Cumulative Surplus/(Deficit)	**$8**	**$17**	**$25**	**$34**	**$43**	**$52**	

PUBLIC WORKS CASH FLOW ANALYSIS

The cash flow summary below indicates potential revenues totaling $6.3 million over the next 6 years. These revenues will allow the City to extend to new development the current LOS being provided to existing development. The expenditures shown in the table below indicate the projected infrastructure needed to maintain the current LOS. It is important to note that the City can only use these revenues for capacity expansions and may not use them to replace or maintain its current public works infrastructure and assets.

The small surpluses shown at the bottom of the table are the result of the vacancy rates built into the residential development projections.

Figure B-7: Public Works Development Fee Cash Flow Analysis

PUBLIC WORKS

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Development Fee Revenues ($1,000's)							
Single Family Detached	$376	$385	$394	$403	$412	$422	$2,393
Multi-family	$234	$240	$245	$251	$257	$263	$1,490
All Other Types of Housing	$0	$0	$0	$0	$0	$0	$0
Commercial/Retail	$485	$155	$158	$162	$166	$169	$1,294
Office	$125	$128	$131	$134	$137	$140	$796
Industrial Flex	$51	$52	$53	$54	$56	$57	$322
TOTAL REVENUES	**$1,272**	**$960**	**$982**	**$1,004**	**$1,027**	**$1,051**	**$6,296**

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Capital Expendtiures Related to New Development ($1,000's)							
Public Works Facilities	$581	$435	$445	$455	$466	$477	$2,859
Public Works Vehicles	$660	$494	$506	$517	$529	$541	$3,248
Development Fee Study	$2	$2	$2	$2	$2	$2	$11
TOTAL EXPENDITURES	**$1,243**	**$931**	**$953**	**$974**	**$997**	**$1,020**	**$6,118**

Annual Surplus/(Deficit)	**$28**	**$28**	**$29**	**$30**	**$31**	**$31**
Cumulative Surplus/(Deficit)	**$28**	**$57**	**$86**	**$116**	**$146**	**$177**

TRANSPORTATION CASH FLOW ANALYSIS

The cash flow summary below indicates potential revenues totaling $41.5 million over the next six years. The planned street expenditures are from the City's CIP and regional transportation plan. The other components of the Transportation Development Fee are calculated using the incremental expansion methodology which will allow the City to extend to new development the current LOS being provided to existing development. The expenditures shown in the table below for support facilities, vehicles, and equipment indicate the projected infrastructure needed to maintain the current LOS. It is important to note that the City can only use these revenues for capacity expansions and may not use them to replace or maintain its current transportation infrastructure and assets.

The deficits shown at the bottom of the table are the result the plan-based methodology. Several of the planned projects are the result of both new and existing development. New development will pay its share via development fees. Existing development will have to pay its share with non-development fees which are indicated at the bottom of the table below. Also, several of the planned projects will provide capacity several years into the future beyond the time period shown in the cash flow analysis. Future development fees could be used to repay the City for oversizing these projects in advance of new development

Figure B-8: Transportation Development Fee Cash Flow Analysis

TRANSPORTATION

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Development Fee Revenues ($1,000's)							
Single Family Detached	$1,849	$1,892	$1,936	$1,980	$2,026	$2,072	$11,755
Multi-family	$889	$910	$930	$952	$974	$996	$5,651
All Other Types of Housing	$0	$0	$0	$0	$0	$0	$0
Commercial/Retail	$7,400	$2,360	$2,415	$2,470	$2,527	$2,585	$19,758
Office	$493	$505	$516	$528	$540	$553	$3,135
Industrial Flex	$183	$187	$191	$195	$200	$205	$1,160
TOTAL REVENUES	**$10,815**	**$5,853**	**$5,988**	**$6,126**	**$6,266**	**$6,411**	**$41,459**

Fiscal Year =>	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*TOTAL*
Capital Expendtiures Related to New Development ($1,000's)							
Planned Streets in CIP Eliglible for DIF Funding	$3,382	$2,379	$3,497	$3,969	$2,176	$3,250	$18,652
Planned Streets in Regional Plan (annualized over 20 years)	$9,399	$9,399	$9,399	$9,399	$9,399	$9,399	$56,395
Support Facilities	$75	$36	$37	$37	$38	$39	$262
Support Vehicles & Equipment	$581	$277	$283	$290	$296	$303	$2,031
Development Fee Study	$9	$4	$4	$5	$5	$5	$32
TOTAL EXPENDITURES	**$13,446**	**$12,095**	**$13,221**	**$13,700**	**$11,915**	**$12,996**	**$77,373**

Annual Surplus/(Deficit)	**($2,632)**	**($6,242)**	**($7,233)**	**($7,574)**	**($5,648)**	**($6,586)**
Cumulative Surplus/(Deficit)	**($2,632)**	**($8,873)**	**($16,106)**	**($23,680)**	**($29,328)**	**($35,914)**